Vol. XCIV., No. 3387.—Saturday, January 4, 1908.

THE BUILDER

ILLUSTRATIONS.

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Vienna Architecture.....From Photographs.

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3. The Town Hall.
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10. The Arsenal Museum; Charitable Institution.
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The Architecture of Vienna.

THE subject of this article and of the illustrations of this New Year's number is the architecture of Vienna. A year ago some of the modern buildings of Berlin were illustrated in these pages. Vienna follows naturally as the capital of Austria. There are other reasons that make Vienna interesting at this time. It will next May be the meeting-place of the International Congress of Architects. It was on Christmas Day, 1857, just fifty years ago, that the present Emperor Francis Joseph published his Imperial decree regarding the replanning of his capital. It is possible that fifty years have shown as great building activity elsewhere; many centres of industry have become cities in that space of time, but no ancient capital has transformed itself in such a remarkable and statesmanlike way.

In the new Rathaus there are galleries devoted to the illustration of the history of the city—an enterprise which other cities might very well copy. In these are plans dating from 1438 to the present day; there are views of the buildings it contained as far back as 1493; there is a kind of isometric plan of 1529. These convey some idea of Vienna in the Middle Ages, and illustrate its evolution to the present day. It is doubtful whether the Germans were ever a really artistic people; that is, art was a thing they could live well enough without. They never experienced that fiery zeal which swept through Italy and France—and England in a more temperate way. The atmosphere of Germany, like that of Italy, was not suited to Gothic architecture. Mediævalism was discarded before

it had left any lasting impression. The Germans did not assimilate Gothic art; the churches in Vienna shown on the old plans are barn-like structures with a character all their own.

The great cathedral of St. Stephen retains much of its Romanesque foundation; the XIVth century Gothic nave, aisles, and choir are exotic, receiving finishing touches in the Renaissance style in the XVIth century. It stands the central feature of the city to-day, as in the views drawn in the XIVth century, a monument rather to the profound and simple piety than to the native art of the Middle Ages (see Plate and Fig. 1).

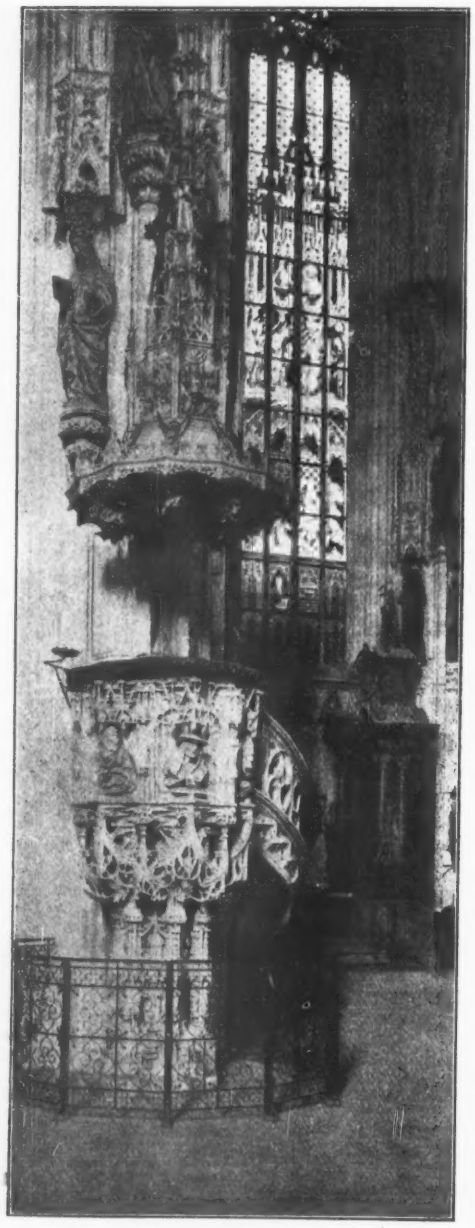

Fig. 1. The Pulpit in the Cathedral.

The Germans have been great originators of architectural research. They have served a long apprenticeship to foreign schools of design, and they have shown themselves liberal in their tastes. The extraordinary thoroughness and success of their efforts of thirty years ago make it difficult to realise what they may achieve in the future. At present they are lost in the "Art Nouveau" movement, which has found much favour in Vienna. Should they emerge from this latest architectural vagary and work along sane and reasonable lines, their influence may be as far-reaching in architecture as it has been in science. Very few of the latest productions of Vienna call for comment; time will show the futility of mere weird and nauseating inventions based on no other principle than to startle and arrest attention. This article and the illustrations therefore deal for the most part with the work which followed upon the Emperor's decree regarding the enlargement of the city fifty years ago. It produced a school of individual architects and a number of buildings of which any city should be proud.

In 1857 Vienna consisted of the old city within the walls and the suburbs, of great extent and importance, without them. There was the old town and the new, the space occupied by the walls and fortifications. To abolish the great inconvenience of this arrangement it was proposed to remove the old fortifications and lay out the wide belt of land thus acquired for public buildings and gardens in an orderly and worthy manner. A plan was prepared by Herr Ludwig von Förster showing the proposed improvement. In the R.I.B.A. *Journal* for 1888 the Emperor's decree bringing the matter to a head is published in full, and a very interesting document it is. We refrain from giving the text, that our readers may be induced to look up the back numbers of the *Journal* and read for themselves the two very interesting papers on the subject by Mr. Farrow, the holder of the Godwin Bursary of twenty years ago, and by Mr. Blashill. The writer is indebted to these papers for the following paragraphs upon the result of this decree of the Emperor's, and for some useful information:—

"In accordance with the terms of this Imperial command, an open competition was instituted, in which eighty-five designs were sent in. The premiated designs were by Friedrich Stache, Ludwig Förster, and von Siccardsburg, and van der Nüll, but none of the three were literally carried out. The final plan, prepared in the Office of Works of the Ministry of the Interior, was approved by the Emperor on September 1, 1859, previous to which the work of demolition had already commenced.

"The map of Vienna as it is at present (Fig. 2) shows that the rearrangement of the area previously occupied by the fortifications consists of a wide boulevard, or ring, round the inner city connected to the broad quay next the Danube Canal, referred to in the Emperor's decree. At intervals along the line are open spaces—the Stadt Park, the Palace Court, and People's garden, the Rathaus Garden, and the garden in front of the Votive Church. When these open spaces had been set apart, and sites allotted for the museums and other public buildings contemplated, there remained still a considerable area of building land free for the operations of the capitalist or speculator. This was speedily taken up at prices ranging from 150,000*l.* to 300,000*l.* per acre, and thus was provided the building fund which has given to Vienna, during the last quarter of a century, a series of public buildings such as no other modern European capital has had the opportunity of securing during a similarly short space of time."

The new boulevard surrounding the old city is known as the Ring. That part of it to the Danube Canal is called the Franz-Josephs-Quai; then follow in order the Schotten-Ring, the Franzens-Ring, the Burg-Ring, the Opern-Ring, the Kärtne-Ring, the Kolowrat-Ring, the Park-Ring, and the Stuben-Ring. Each section of the Ring is straight in itself.

Beginning our inspection of the great buildings lining this promenade in the Schotten-Ring, in the north-west of the inner city, the first building of the series is the Bourse—the Exchange of Vienna. The architects were Baron von Hansen and Tietz; it was built between the years 1872-77. The façade to the Ring is only about 300 ft., and those to the sides rather more, but it has the quality of being perfect in scale, and the massing is exceedingly fine. We were able to obtain admission to the fine central hall, the main feature of the plan. The proportions of the hall are nearly those of a double cube; on either side are wide corridors on the ground floor, with galleries over, open to the hall. The internal decorations are rich in marble and colour; the design is that of the constructor cleanly worked out. The main façade shows the hall carried through the entrance vestibule to a great portico on the front; this is divided into five bays, treated as two floors, with the Doric and Corinthian orders, flanked by bare wall spaces the width of the side corridors and galleries of the hall, unbroken save for some small windows; the whole projection stands on a fine flight of steps, lifting the front clear of the street traffic. The wings are at a lower level; they are used as offices in connexion with the Stock Exchange, and form the side façades. The detailing throughout is strong but refined; the materials are stone for the worked surfaces and diaper tile wall facings for the plain ones.

Opposite to the Exchange is the Sühnhaus, or "Expiatory building," a Charitable Institution (see Plate) built at the cost of the Emperor on the site of the Ring Theatre, which was burned down with great loss of life in 1881. In it is a chapel in which masses are said for those destroyed by the fire; the remainder of the building consists of flats the rent from which is devoted to charitable purposes. The late Baron Schmidt was the architect, of whom we shall speak when we come to the Rathaus.

The first of the delightful public spaces laid out as gardens is the Maximilians-Platz. This triangular open space forms a fine foreground for the Votive Church, built in 1856-79 in memory of the Emperor's escape from assassination in 1853. The architect was Baron von Ferstel. The church is in the Gothic style; in plan it is a small copy of Cologne Cathedral, and it is to a great extent modelled throughout on that building (see Plate and Figs. 3, 4, 5). Sitting within the nave it would be hard to say it was not a real Gothic cathedral of small dimensions. The effect is one of singular beauty and religious sentiment; graceful lines spring from floor to vaulting, no rude carving or inharmonious details arrest the eye. The gilding and decorations of the vaults and spandrels are extraordinarily successful. The colour and quality of the stained glass is the only offence, and this is one by no means confined to new churches; many an old church is marred in the same way in England as well as on the Continent. The nave and transepts are without a triforium. The lines of the chancel from roof to clearstory are a continuation of the same. The apsidal termination of the chancel necessitates the closer spacing of the piers, and these are arched at a lower level than the rest of the church, sufficiently low to allow of the introduction of a triforium; this is glazed, and has the appearance of being used for

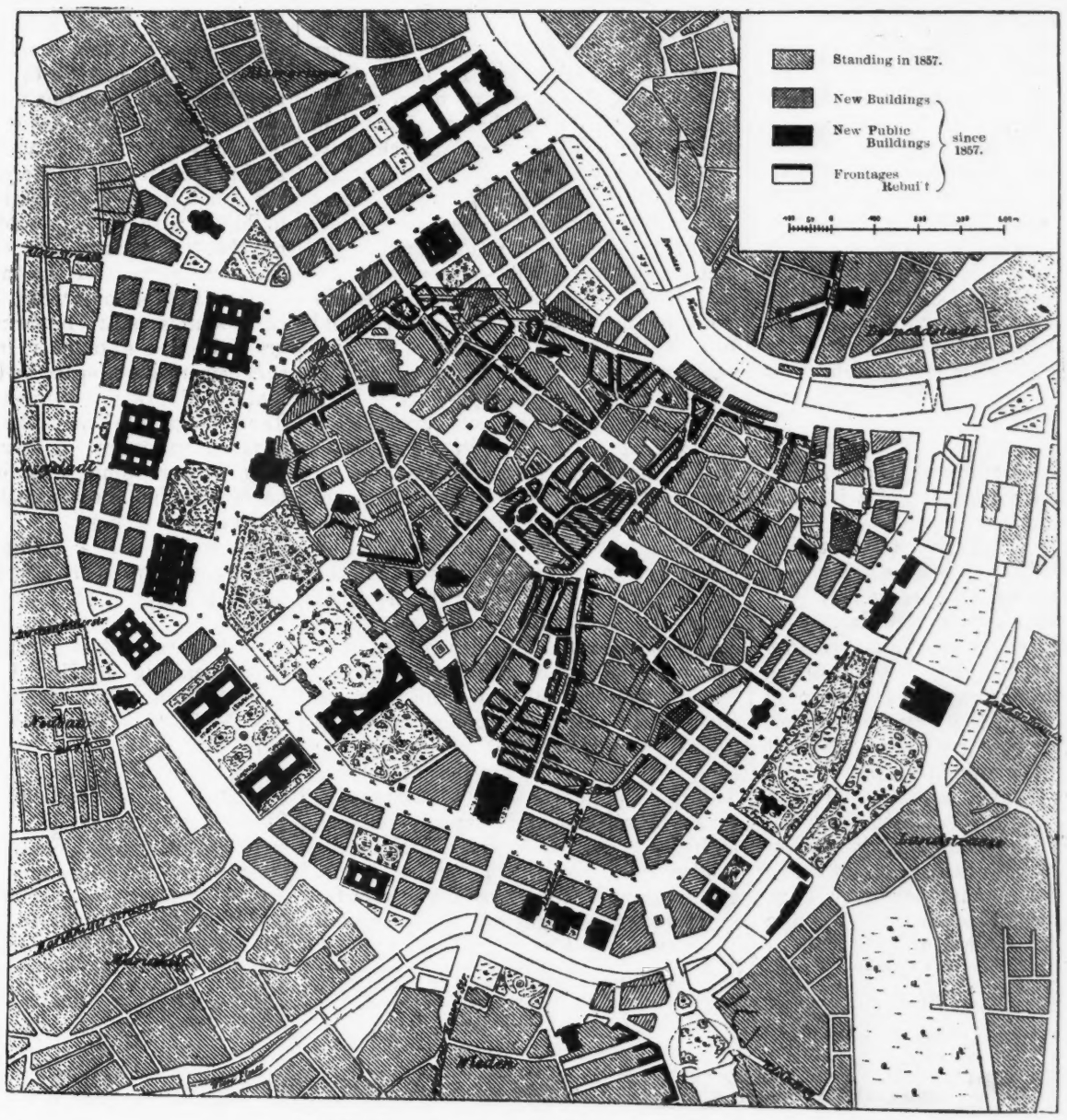

Fig. 2. *Plan of Vienna as Remodelled since* 1857.
From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

purposes of worship. The organ is well placed at the west end over a finely designed atrium. Every detail has been carefully considered; the pulpit and font are fine pieces of work. The baldachino over the high altar is elegant to the last degree. Externally the building would seem to be a truthful expression of the interior. The masses are highly ornate, but are clearly and perfectly worked out. The west façade is flanked with twin towers of open work of slender proportions. The chapels west of the transepts, which internally break the abrupt crossing of the transept, are externally delightful in design. The rather hard and wiry character of the detailing is not noticeable except outside in the open light. The drawings of this church have been published in book form, a copy of which is in the Institute of Architects' Library; the illustration is taken from that.

We now enter the Franzens-Ring; it is about half a mile long and contains four great public buildings; at the northern end is the University, occupying one-quarter of the entire frontage; next comes the Rathaus-Park, one-quarter of a mile long and rather more than 200 yds. deep; it is bisected by the wide approach to the Rathaus, the centrepiece of the group. The remaining quarter of the frontage corresponding to that of the University is occupied by the Houses of Parliament. Opposite the Rathaus, on the same axis but on the east side of the Ring, is the Hofburg Theatre. The setting of this group of buildings is unique. There is no connexion, no point of contact, between any of the four designs; each may be seen to perfection separately; collectively, they stand sufficiently in their own grounds to harmonise to some extent and make a most impressive group (see first Plate of "Vienna Architecture"). Each of these buildings is detailed in a different style of ancient architecture; each represents a different school of thought—a fact the cynic will certainly point out. In this connexion it will not be out of place to recall the words of Sir Joshua Reynolds in his second discourse to Royal Academy students:—"Invention, strictly speaking, is little more than a new combination of those images that have been previously gathered and deposited in the memory; nothing can come of nothing; he who has laid up no materials can produce no combinations." Herein lies the weakness of modern architecture. The spirit which conceived the great buildings of the past is still ours; it expresses itself in great creative work; it has a purpose and it has a conscience, but the form of its expression is still to seek. Except in Paris there has been no traditional school of architecture in which the student could lay up store of material upon which to draw. He sees men turning hither and thither to bridge the gap which social and industrial conditions have produced in architectural development. Previous to the Reformation there were Pagan and Christian styles of architecture. With the Reformation the clergy were the foremost advocates of the denial of the classic forms of ancient Rome. Since the Reformation and its revivals of past styles there has been a nice distinction between those for religious and those for secular purposes; the architect has seldom been able to express the aspirations and ideals of the community as a whole. It does not do to try to separate life from religion; we cannot separate the indivisible.

Architecture is history written in stone; it records the virtues and the defects of the community as well as of the individual architect. It is the spirit of the work which matters. Whether the process of production can admit of the spirit of the old work is doubtful; it is certain that the conditions can never again be what they were during the historic periods of building. It is, therefore, extremely interesting to find four great buildings built at the same time showing different characteristics of mind—and it is not unreasonable to

suppose different conditions of labour among those who produced these ; it is a pity it is not possible to collect the evidence for and against the processes of production, which at the time must have been capable of analysis. But here we can only record the impressions of one individual, produced by a comparatively brief visit to the completed works.

The University (see Plate) is slightly the larger of the four buildings. It was perhaps somewhat of a shock—though we ought not to admit it—to find it is the work of the same Baron von Ferstel, the architect for the Votive Church. The University is of very old foundation, dating from 1365 ; it is now attended by nearly 7,000 students, and has 350 professors and lecturers. These figures help us to realise the size of a building accommodating for purposes of study numbers greater than that of the undergraduates of all the colleges combined at either Oxford or Cambridge. It was built at a cost of 8 million florins. It is not a building calling for lengthy description. The accompanying plan (Fig. 6) and the illustration of the main façade speak for themselves ; the side elevations, though flat, are by no means the least impressive. It is a fine pile, but the flat pilaster treatment, though of Tuscan simplicity, has little or nothing to recommend it ; it was a weakness in the designs of the Italian masters, yet in justice to the Germans we must say they have shown more readiness to throw off the practice than any other nation. On the whole, the internal courtyards and side elevations are more impressive than the front. The work is characteristic of modern German architecture ; it is very thorough and perfect of its kind ; there are no back elevations, no mean subterfuges for effect, such as abound in Italy. The whole is severe and scholarly, not unsuitable for a university, though internally it is somewhat cold in effect and calls for judicious colour decoration.

The centrepiece of the group—the Rathaus (Town Hall)—is admirably designed for its position. The details are German Gothic, or perhaps it would be more correct to say Italian Gothic ; the rustications about the base, and the string courses in strongly-marked horizontal lines, suggestive of cornices, are reminiscent of the transitional in Italy to the Renaissance (see illustrations on two Plates). It is a tall building of five lofty stories below those in the steeply-pitched roof, the whole raised on a base of steps nearly the full width of the front. The long flat lines of the front and of the roof are broken by five graceful towers surmounted by open spires. The towers are square on plan and stand out from the front the full projection of their width. That in the centre is the tallest, it is about 350 ft. in height ; those on either side are of symmetrical design. The centre spire is surmounted by a colossal standard-bearer in copper ; with him a pair of Austrian eagles have residence, a not inappropriate home. The spaces between these five towers for three stories in height are filled in with a masonry screen like the aisle to a cathedral nave turned inside out. The effect is beautiful in light and shade. The ground floor is an arcade of pointed arches, which carry a mezzanine floor, forming a plain base for the lofty traceried arcade above ; thus this forms a magnificent open-air promenade upon those occasions when the great "Volkshalle" behind it is in use ; above this screen rise the quiet lines of the main wall of the building, with its high roof broken only by the towers and their elegant spires. The arrangement of the interior is seen in the annexed plan (Fig. 7). The two main staircases are remarkable for their great size and stateliness ; few cities show such generosity of space and labour in the matter of grand staircases as Vienna. The "Volkshalle" is on the second floor ; it is an apartment of great length, too long, in our opinion, for its width and height. It has the perspective of a huge gallery, but it must be a fine sight at night lit up for a brilliant assembly. Architecturally, the best apartment within the building is the council chamber ; besides being a well-proportioned piece of architecture, it is adorned with good fresco paintings by Herr Ludwig Mäyer. The late Baron von Schmidt, the architect, was the Institute Royal Gold Medallist of 1872.

Opposite the Rathaus, as previously indicated, is the Hofburg Theatre (see Plate and Figs. 8, 9). It was the work of Professor Semper and Herr Hasenauer. The masterly hand of the former architect is evident throughout. It is treated in a free Renaissance manner, yet, like the Rathaus, it recalls no other building ; it is an original conception carried out in a monumental way with

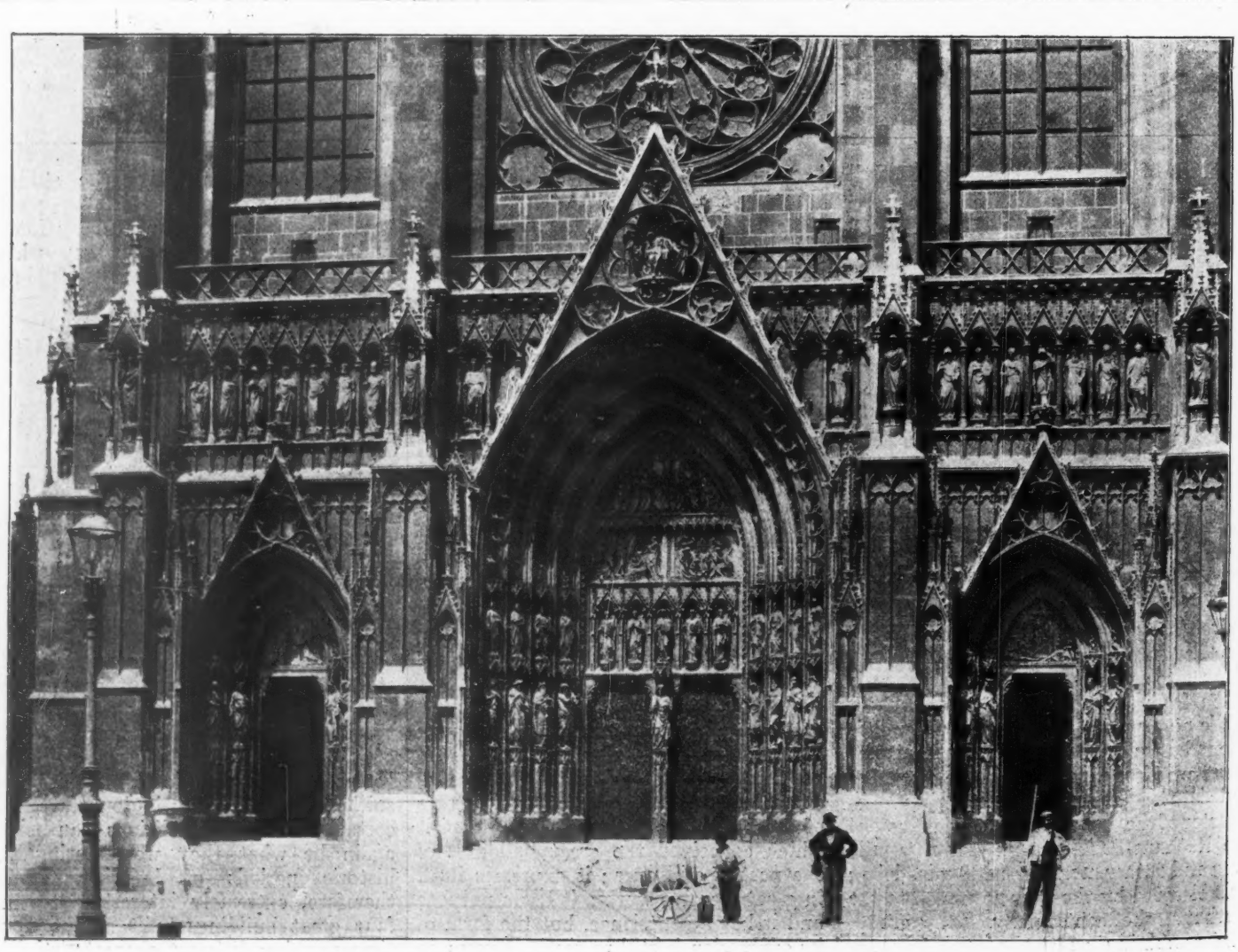

Fig. 3. The Votive Church. Western Portals.

great perfection and beauty in every detail. The central or straight portion of the façade might be the work of that austere architect Michelangelo suddenly inspired to let himself go. The only fault to find with it is that it is not in marble. In looking again at the illustration, how dull and lifeless it is compared to the real thing under the bright clear sky of Vienna! Here there are the two modern European styles face to face some 300 yds. apart. The choice between them, if indeed choice be necessary, recalls Browning's lines in "Rabbi Ben Ezra":—

"Now, who shall arbitrate?
Ten men love what I hate,
Shun what I follow, slight what I receive."

In its final issue it is not a matter of likes and dislikes, but of evolution. The solution is a matter of sociology and religion. As Mr. Cesar Daly* has said of the arbitration of the future, "the new, the future, is to aid life and train it so that beauty may flow into the soul like a breeze."

The fourth building of the group is the Houses of Parliament (see Plate)—the work of Baron von Hansen, the architect for the Bourse and the Academy of Fine Arts. The plan (Fig. 10) shows the Chamber of Deputies on the right and the Upper House on the left, forming practically two independent buildings connected by a central hall 135 ft. long and 75 ft. wide; between the hall and the chambers are the anterooms and corridors. Both chambers are top lighted. We were able to visit the Chamber of Deputies during a sitting of the House. The Chambers are symmetrically placed, that of the deputies being slightly the larger of the two. Both are semicircular in plan. The President's seat marks the centre of the semicircle, the seats of the deputies ranging in tiers. The public and the press are accommodated in two galleries, one over the other; the lower supported by Caryatides and Atlantes alternating, the upper upon columns. Gilding and colour has been lavishly applied; the colour scheme is successful, though the Chamber as a whole is not; the plan is the logical outcome of the requirements, but it does not make for architectural effect. All the internal details are in keeping with the style, which is Greek throughout. Baron von Hansen has shown himself a master here, as at the Bourse; the detailing is perfect, and calls for our respectful admiration for so much scholarship. The two masses of building are adorned with splendid statues and bas-reliefs; they are crowned with bronze quadrigæ—the work of Herr von Pilz. The wings uniting the two departments contain committee-rooms and offices. The centre of the façade is an octastyle portico with snow-white marble shafts to the columns, raised above the ground one story, reached by inclined planes on either side of a central flight of steps. Facing this is the Minerva fountain, 50 ft. high, in white marble, by Herr Kundmann; the approaches are flanked by fine bronze groups of horse-tamers, by Herr Lax. The building is of a greyish white marble, which is weathering perfectly, and is seen to as great advantage now as when it was first built. Apart from the question of suitability of style, the whole is cast in too small a scale; it is more like a precious shrine than a great building in which is conducted the affairs of a nation.

Opposite the Houses of Parliament is another open space, the Volksgarten. In this is the so-called Temple of Theseus, containing the Ephesus Museum. Ferguson in his "History of Architecture" pours forth the full force of his satire upon this building; but then Ferguson could see no good in any modern German architecture. It certainly is unfortunately situated for a Classic temple.

At this point the Ring sweeps round into the Burg-Ring, another vista laid out with buildings on either side in a symmetrical plan. The axial line of the plan is at right angles to the Ring, passing through Burg Thor, the entrance to the Imperial Palace; on the south-west lies the Maria Theresa Platz, the monument to Maria Theresa, erected in 1888 from the designs of Baron von Hasenauer, marking its centre; without being a remarkable work of art, it forms a handsome centrepiece to the Platz, which is laid out as a garden. Beyond this are the Imperial stables, a long low line of old buildings in yellow stucco with

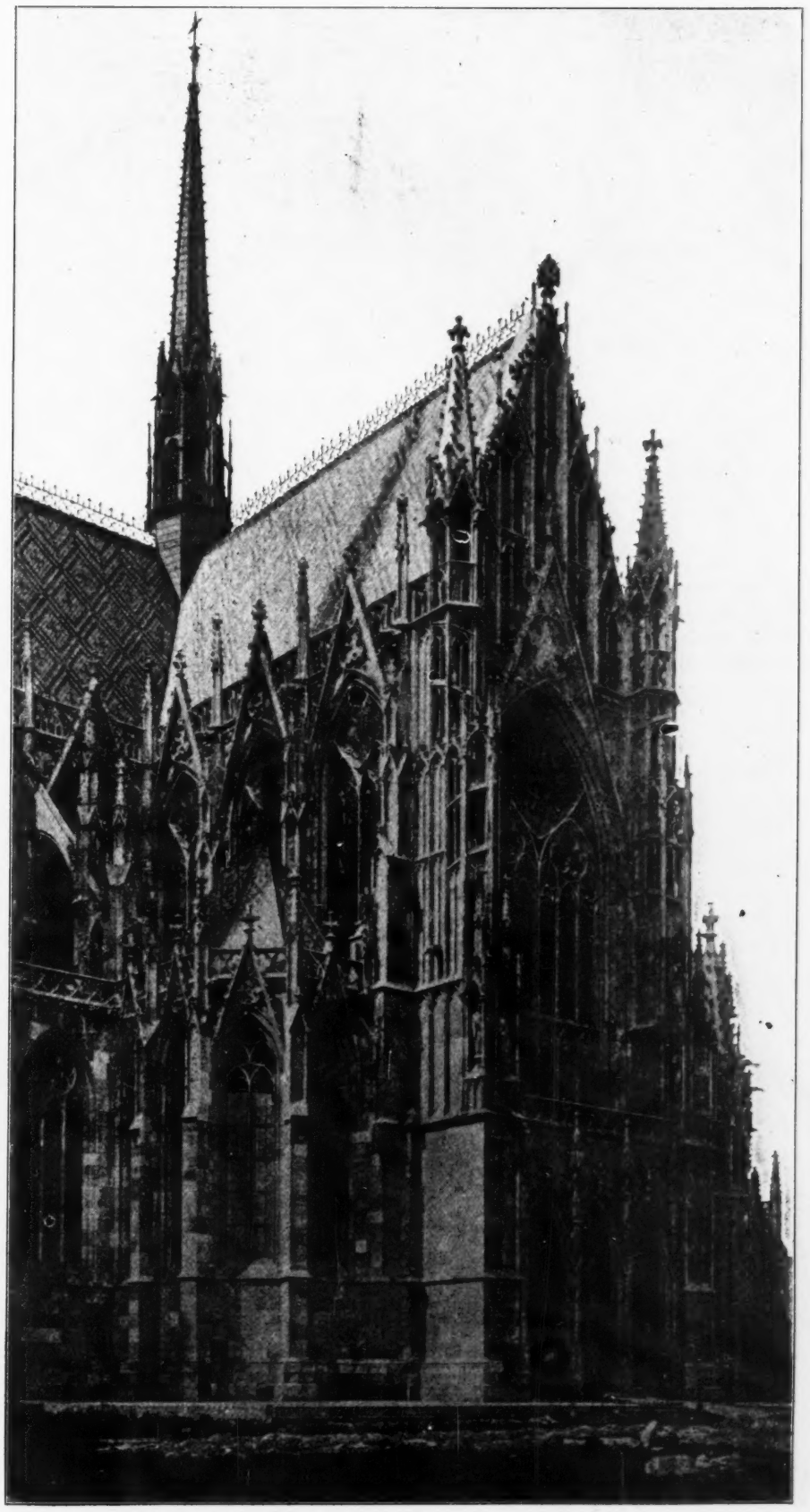

Fig. 4. Votive Church, South Transept. Baron von Ferstel.
From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

* Professor Lethaby in "Arbitration, Mysticism, and Myth."

brown-tiled roof. The features of the Burg-Ring are the two Imperial Museums on either side of this Platz. Externally they are exactly similar, each a vast rectangular block with slight projections at the centre and ends of the façades. They were erected by Baron von Hasenauer, partly from the designs of Professor Semper. That to the north is the Natural History Museum; that to the south, the Art History Collection belonging to the Imperial family. It will be sufficient to describe the Art History Museum (see Plate), of which the plan is given (Fig. 11). The entrance is in the centre, with some very pretty planning around the hall and great central staircase: the lighting internally is by two large courtyards. The Germans are great planners; their plans are worth studying, and are simplicity itself. The centre of the façade is marked by an octagonal dome and drum, supported by the walls of the octagonal entrance hall; the walls of the surrounding corridor and stairs form a platform from which the drum rises, and the four corners are emphasised by cupolas of poor design. The dome and cupolas are the least interesting features of the design; the Germans usually avoid domes, and get their effects by the simple masses of the building. Externally the order and design is a poor edition of the new wing of the Royal Palace. The internal decoration of these buildings is their principal attraction; rich in colour, and well-contrasted Italian marbles. In passing we must note a feature of these great staircases; one flight has thirty-two steps in it, the tread about 15½ in. and the rise about 5½. It makes a fine effect, but weary going; our thirteen steps to a flight must appear very insignificant to a German!

Passing through the sombre Burg Thor, or entrance to the Imperial Palace, we are in the Outer Burg Platz, the public garden opposite the Imperial residence, or Court, as it is known. As a whole the palace is outside the object of this survey; the exception is the wing built by the present Emperor from the designs of Professor Semper (see Plate,

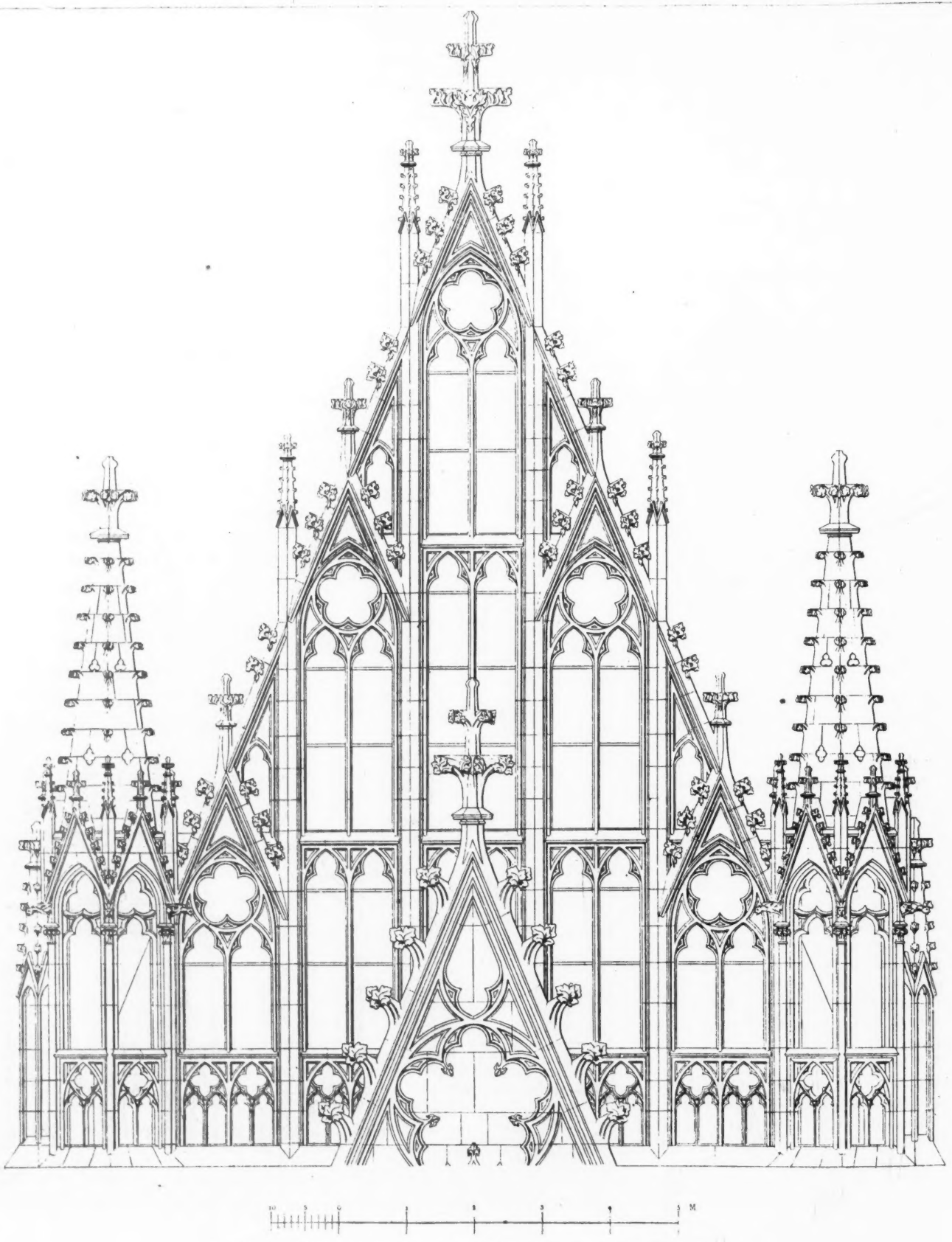

Fig. 5. Votive Church. Detail of Masonry of the South Transept.

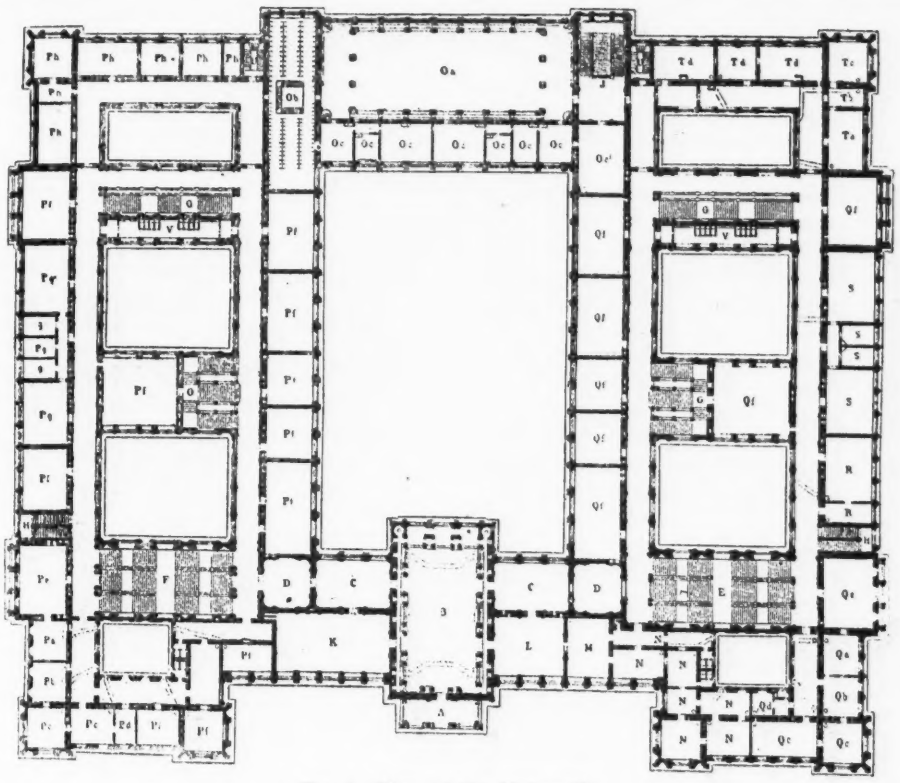

Fig. 6. Plan of the University.
From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

and Figs. 12 and 13). In our opinion, this is the finest building in Vienna. The frontage is about 1,000 ft. long to the Outer Ring Platz. The greater part of the façade is a sweeping curve flanked by square wings. The illustration does not do justice to this great work; the effect at present is much marred by straggling temporary buildings in front of it. The façade is divided vertically into two heights, each division containing two stories. The lower of these divisions on the segmental façade is the base, upon which is ranged an open colonnade of coupled columns. The installation thus supported is unbroken, and, with the lead roof behind the balustrade, makes a fine sweep. The base is heavily rusticated, and has large semicircular-headed windows in it; between these, on newly-designed pedestals, stand statues of considerable artistic merit. A string course separates these from the basement or ground floor, which is broken only by square-headed window openings. The centre of the composition is treated with an order larger than that of the colonnade, thus raising the centre portion high above the sweeping segmental curve. Below this is a great porte-cochère of rusticated masonry. The straight flanks and the elevation to the Burg-Ring are treated like the curve, but with three-quarter attached columns instead of the open colonnade—the three-quarter columns would have been better left out. The stone employed is somewhat similar to Portland, and is weathering to a good colour. The detailing is quite perfect, and the character of the building, though far surpassing any of the older city buildings, is not out of keeping with them or with the XVIIIth century work of even Erlach or other parts of the palace. The original plan contemplated a corresponding wing, which would have enclosed the Outer Burg Platz.

The Opern-Ring is short; on one side is the Opera House, on the other, the full length of the way, the Heinrichshof, a brick and terra-cotta building with stone dressings; it was designed by Baron von Hansen. The ground floor is occupied by shops and cafés; the remainder is an enormous block of flats. The Opera House (see Plate), like nearly all the public buildings in Vienna, stands on an island site. It is the result of an open competition which was won by the architects Van der Nüll and Von Siccardsburg. The plan (Fig. 14) shows the disposition of the parts of the house. The principal façade is naturally to the Ring; in this are the public entrances and staircases. The proportions of an otherwise fine building are somewhat spoiled by the three-centred arches over the ground-floor openings; if these had been semicircular the whole would have been saved from the commonplace. The interior decorations are the usual type of this class of work. Why is it that no higher intelligence is brought to bear upon theatre decoration? The Kärtner-Ring is the fashionable residential quarter; in it are two large hotels—the Grand and the Hotel Bristol, both fine buildings. The whole of one side of the Park-Ring is open to the Stadt-Park; there are two noticeable buildings on the west side—the Horticultural Society's headquarters and the palace, of the Teutonic order—another of Baron von Hansen's designs, a refined and elegant little work in the Palatial style. The last building in the Ring to call attention to is the Museum of Art and Industry in the Stuben-Ring. It was designed by Baron von Ferstel; it is a comparatively plain building of brick with stone dressings of no great pretensions, but containing many valuable works of art. The Stuben-Ring is now being rapidly built up with residential flats. The Stuben-Ring brings us once again to the Franz-Joseph-Quai, and so completes the circle of the Ring. There are fine buildings in the Ring not here referred to—they require to be seen; such are the Arkaden-Häusen on either side of the Rathaus, and many more. We leave the Ring with regret for the more arduous task of searching for scattered buildings. The Ring is the gay and busy promenade of fashionable Vienna. The gaiety of Vienna has been referred to by a great English poet. In Vienna Arthur Hallam died, and thenceforth to

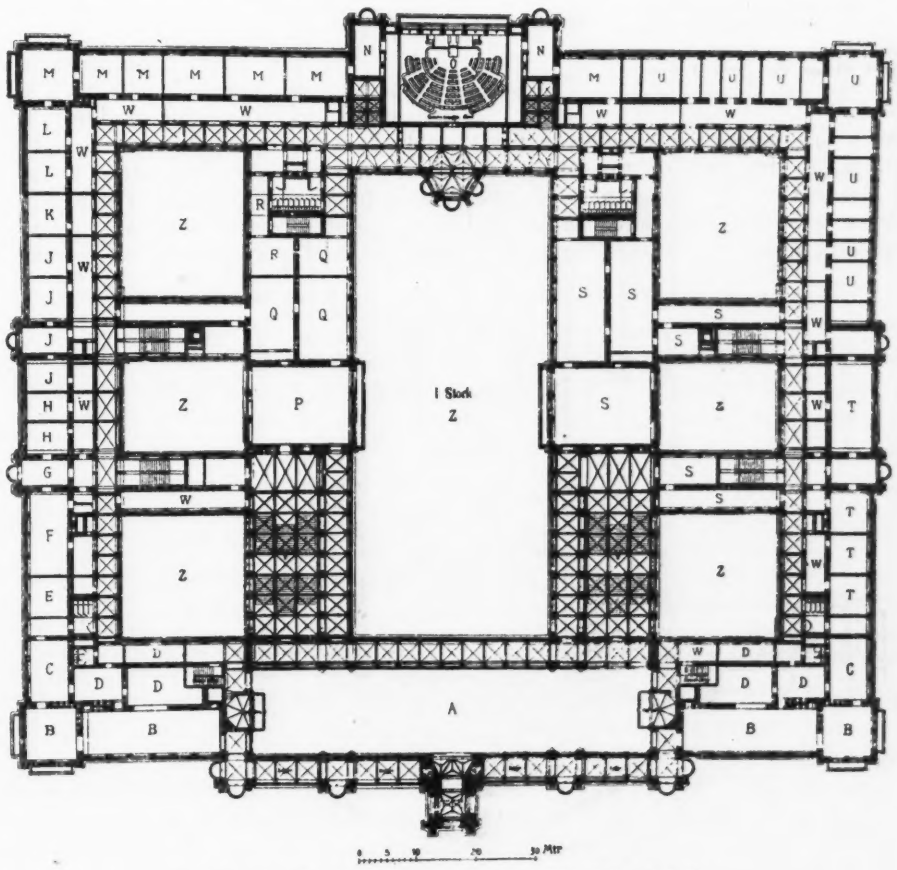

Fig. 7. The Town Hall. Baron von Schmidt, Architect.
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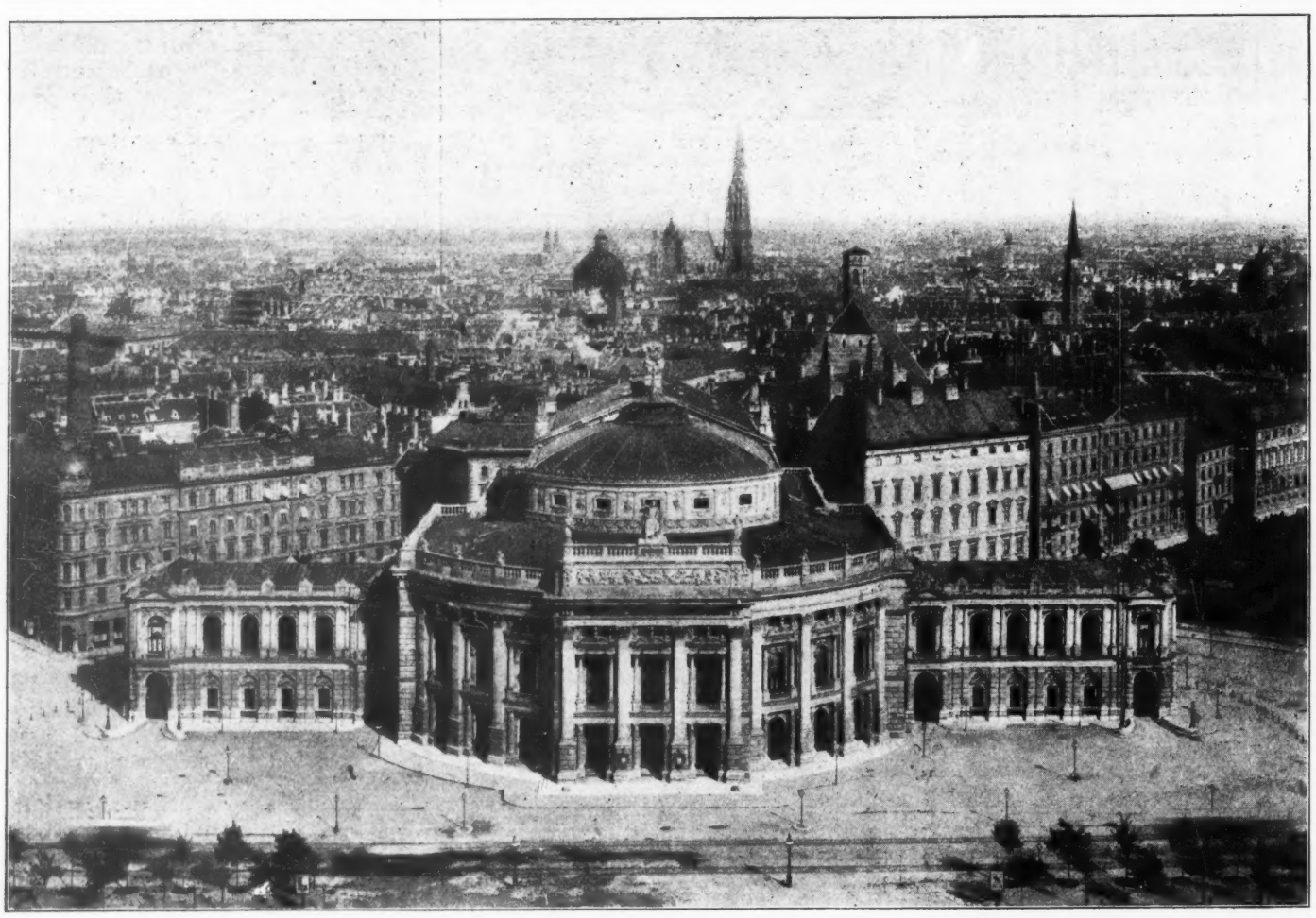

Fig. 8. Hofburg Theatre. Professor Semper and Baron von Hasenauer, Architects.

his friend Tennyson Vienna was a city of gloomy associations, in spite of the contrary testimony of Hallam himself:—

"And yet myself have heard him say,
That not in any mother town
With statelier progress to and fro
The double tides of chariots flow
By park and suburb under brown
Of lustier leaves; nor more content,
He told me, lives in any crowd,
When all is gay with lamps, and loud
With sport and song, in booth and tent,
Imperial halls, or open plain;
And wheels the circled dance, and breaks
The rocket molten into flakes
Of crimson or in emerald rain."

There are several imposing modern buildings in the area of the old city. Not the least interesting in a monumental way is the stone screen masking the bastion upon which stands the palace of the Archduke Friedrich. When the fortifications of the inner city were removed this palace, built in the beginning of the last century, was left stranded; a retaining wall was built about the bastion, treated as an architectural adornment to the city, with a fountain and sculpture.

The principal new buildings are banks and business premises. The Credit Bank (see Plate), by Baron von Förster, is a building in the grand manner of the Florentines; it is imposing without and delightful and surprising within. The public department is a fine open hall, top-lit, of sober design and beautiful fittings. The staircase to the directors' offices and board-room is a charming and original piece of work—perhaps the most beautiful staircase in Vienna. The board-rooms and adjoining offices are panelled in dull walnut and hung with rich brocades, and are work of perfect taste and discrimination. The Laenderbank (Fig. 15), by the same architect, has only a small frontage across the corner of two abutting streets. It is a clever piece of designing. Of work on newer lines, the street front (Fig. 16), with the central bay shown in the adjoining illustration, is not an unpleasing example. This central-bay treatment is a favourite one in Vienna, and is very effective. It is a pity the London Building Act prohibits this means of obtaining effect in our otherwise flat street fronts. In the older town is the front (Fig. 17) with the two crow-stepped gables. It is rather restless, but is a good example of the newest work in the city. The front is of stucco, a material very largely employed in Vienna from time immemorial, although all the more important buildings, public and otherwise, are now built of stone, most of which comes from Italy. The combination of stone and stucco with sgraffito decoration, shown in the example of Herr Otto Wagner (Fig. 18), is effective.

One of the oldest and the most picturesque buildings in the inner city is the Minorite Church, occupying the centre of the Minoritenplatz (the older part of the church is XIVth century Gothic). Seen externally, it is a wide short building with an immense expanse of roof of red tiles. Between the plain high gables an octagonal belfry, containing probably a stairway of great height, is built against the east end, slightly out of the centre of the gable; it is a plain belfry without ornamentation. On the north of this, also on the east front, is the apsidal

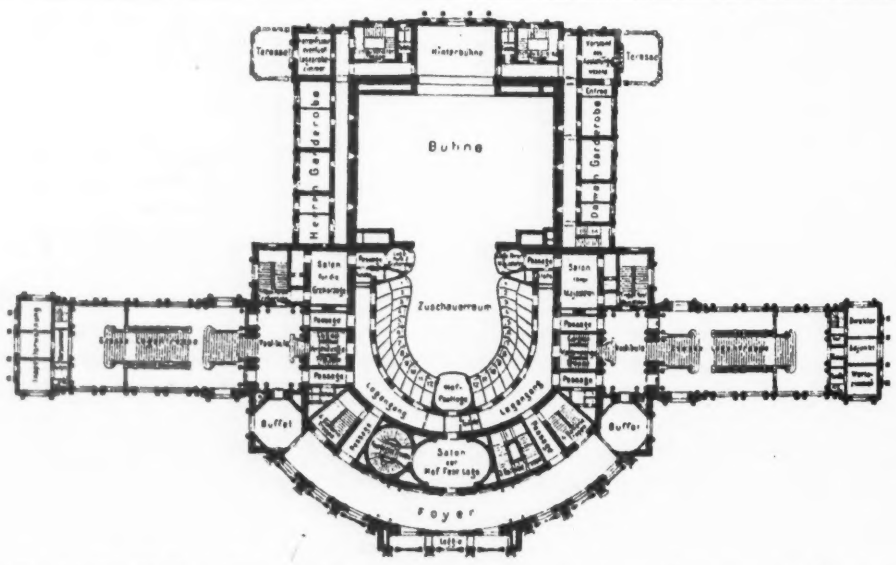

Fig. 9. The Hofburg Theatre. Professor Semper and Baron von Hasenauer, Architects.
From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

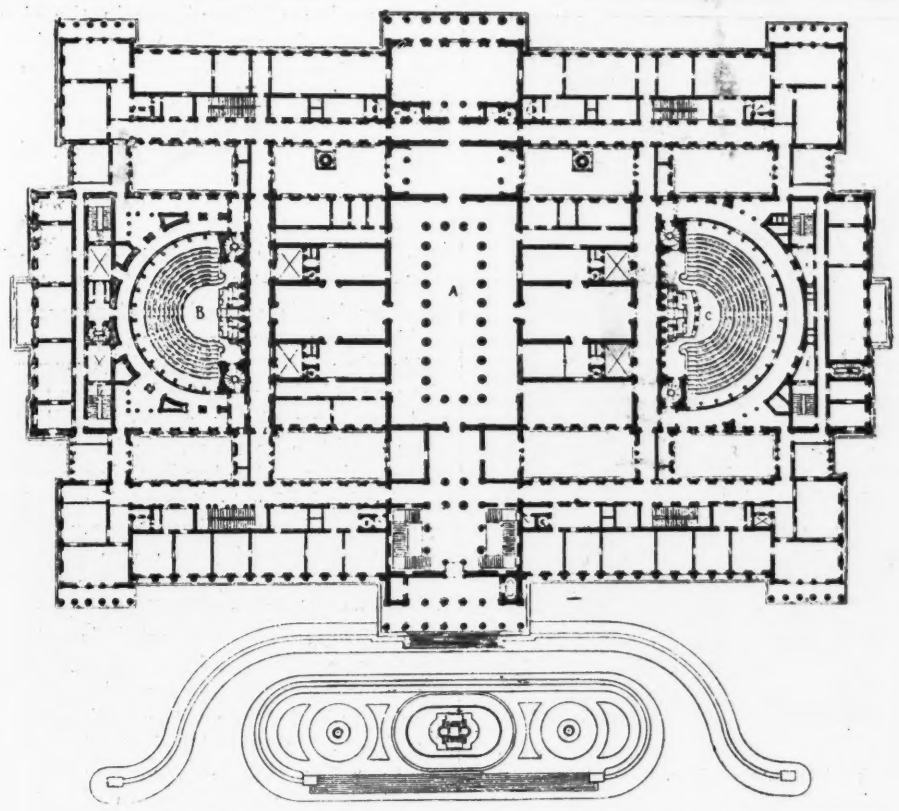

Fig. 10. *The Houses of Parliament. Baron von Hansen, Architect.*
From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

termination of one aisle with lofty traceried windows; corresponding to this on the south, the private house of the priest has been newly added, the accommodation continuing right along the south front of the church between buttresses. It is an unusual proceeding, but no doubt land is very valuable, and this new work stands upon ground belonging to the church previously occupied by some outbuildings. Near to this is an ornate bank, a corner building of stone (Fig. 19). It exhibits really beautiful sculpture and carving.

Of the "Art Nouveau" architects, the best-known in Vienna is Herr Otto Wagner. This architect's most important work in the city is the new Post Office, an extensive block of building just off the Stuben-Ring. The public department is only a small area of the whole, and, save that you have to ascend a long flight of steps to get to it, the planning seems to be all that is desirable; it probably is. The plan is given in Fig. 20. If there is one thing the Germans understand better than another, it is planning. Some of the plans scattered through this text show the fine feeling of their work. It is noticeable that the problems of plan are generally far simpler than they are with us, owing to the generous way in which building areas are laid out. Nearly every building of any importance stands upon an island site, and when there is an awkward corner it is usually laid out as a public garden. But this is a digression from the new post office. The public office is a large hall with a glazed roof over the whole area. The stanchions supporting this and the other ironwork are exposed to view, and are agreeably designed. The only decoration is the white marble dado and white polished plaster above with black chequer diapers. The illustration gives a fair idea of the building externally; it is consistent throughout. The shell of the structure is overlaid with thin plates of stone on the ground floor, and marble above, each plate riveted to the structure by a round-headed white-metal rivet. The treatment of the cornice and story over it is relied upon to give the desired contrast to the flatness of the lower stories. If it were evidently a building of ferro-concrete construction we could regard it as a praiseworthy attempt to suitably clothe the nakedness of this material; but the thickness of the walls would seem to preclude the idea of this construction governing the design. This being so, we can only wonder whether such originality is in the real interests of architecture? The design might be likened to a man walking the streets in a fair tightly-fitting bathing suit and an ornamental hat; his motive might be to attract attention to his own individuality; he would certainly succeed in the latter, however altruistic his motives might be. Unfortunately a clever man like Otto Wagner cannot practise unto himself. He is a professor of architecture at the Academy, and students without the ballast of long study and the faculty of critical observation seize upon what is bad, and omit what is undoubtedly good, in such work, with the result that Vienna is beginning to show excessive looseness in its present-day architectonics. Herr Ohmann, in his work in the Stadt-Park (see Plate), shows the same desire for novelty, but his work, if less clever, is characterised by more genuine artistic feeling. Perhaps the best achievement of this school of architects is a publisher's shop-front near the post office; the windows are not excessive in size, and the walls surrounding these are plated with black marble, with narrow cast-brass architraves. The superstructure in stucco is less interesting, but the ground floor is worth seeing, and not easily forgotten.

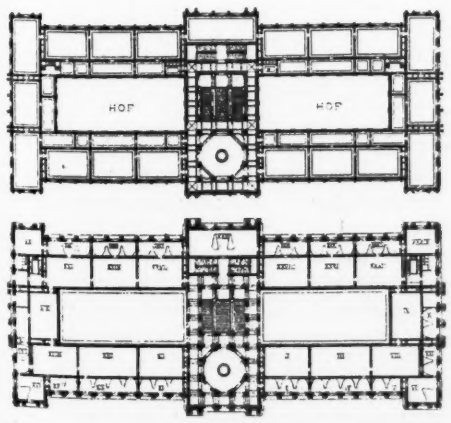

Fig. 11. *Art History Museum. Baron von Hasenauer, Architect.*
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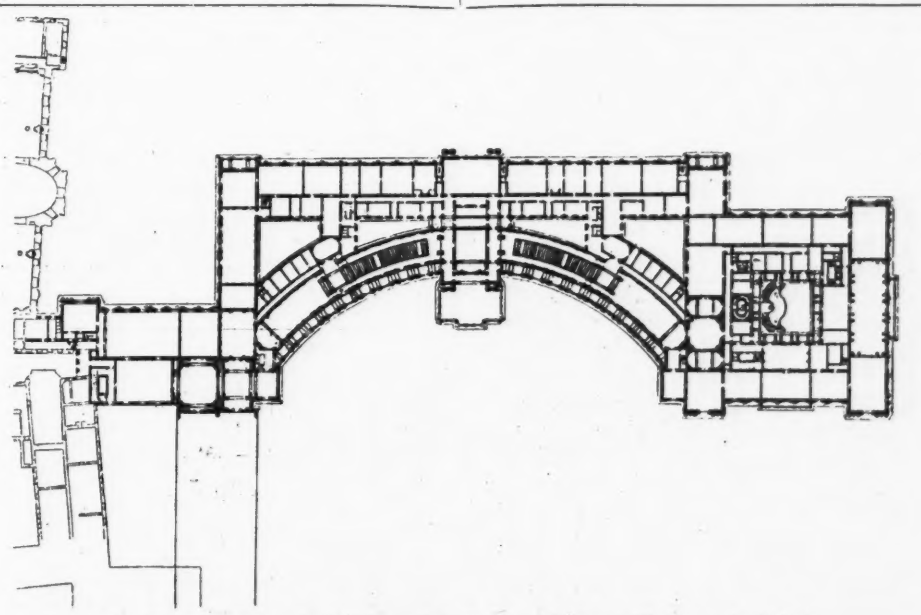

Fig 12 *New Wing to the Imperial Court. Professor Semper, Architect.*
From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

As we have referred just now to the new Post Office, we may mention also the Telephone centre in the Burg-gasse, a building of a more sober architectural style, by Herr Von Neumann, of which a small view and plan are given (Figs. 21 and 22). The plan of the Hotel

Fig. 13. *Garden Front to the New Wing to the Imperial Court. Professor Semper, Architect.*
From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

Metropole, in the Morzin-Platz (Fig. 23), is an exceedingly good example of comprehensive and symmetrical planning, and is worth attention as such, apart from the architectural design of the exterior, of which we were not able to obtain an illustration. MM. C. Schumann & L. Tischer are the architects.

The most considerable building in the outer city is the Imperial Arsenal, on the southern outskirts. The buildings cover about twenty-three acres of land. Instead of the type of military architecture usual to such buildings, it is a very considerable contribution to the architecture of Vienna. If it were not for the mean material of which it is built, that section of it standing within one of the great quadrangles, used as the Army Museum and Hall of Fame, might vie with anything to be found in the Ring. A fine marble or a fine stone contribute immensely to the pleasure which we experience in town architecture, and in the present case the Army Museum probably has but a small circle of admirers because it is built of brick of a disagreeable kind. Even in a clear city like Vienna brick is not the best weathering material for town architecture, and German bricks at any time are not attractive. Here they are a good shape, 11 in. long by $2\frac{1}{2}$ in. thick, and in the museum they are built in alternate courses of "headers" and "stretchers," not as in other parts of the building with nothing but "headers." But they are a bad colour to start with, and are weathering a worse, and are altogether too hard and mechanical to ever look like the brickwork of the Middle Ages. The illustration of the central feature of the façade of the museum (see Plate) does not show the long flanks to it, though it shows their treatment. The architects Barons von Förster and von Hansen must have had the mediæval art of Italy in their minds, but there is also something of the East in it as well as the South. The vestibule and staircase and "Hall of Fame" are of rich materials, and have the quiet splendour of eastern work in the mystering and richness of the sculpture, marbles, and colour decorations.

Returning from the arsenal we pass a beautiful little town mansion in the Heugasse; it sits back from the road in its own courtyard, behind a screen of well-disguised masonry and ironwork; it breathes of the training of the Ecole de Beaux Arts, with its shapely-pitched Mansard roofs and dormers with richly moulded and ornamented lead hips and ridges, and its appropriate sculpture and carving. The Heugasse leads to the Karl Platz, a large open area, with building-ground still untenanted. On one side of this is the Polytechnic Institute, with a long flat façade of stucco; the lines of the building are good. All these flat façades suffer from the double windows which are usual in Vienna; the outer ones having to be flush with the external wall face, much of the relief afforded by the opening is lost. Next to this institution is the Karlskirche, a poor erection built in 1716 to commemorate the cessation of the plague in the city, from the designs of Fischer von Erlach, the architect of that period in Vienna; it is a domed church in the baroque style; the twin belfries in front are stucco copies of Trajan's column, 100 ft. high and 13 ft. in diameter; it seems a pity that it should not be undergoing a thorough repair. On the north side of this Platz are two buildings of merit dating from the sixties, the Kunstlerhaus, by Herr A. Weber, and the Conservatory of Music, by Baron von Hansen.

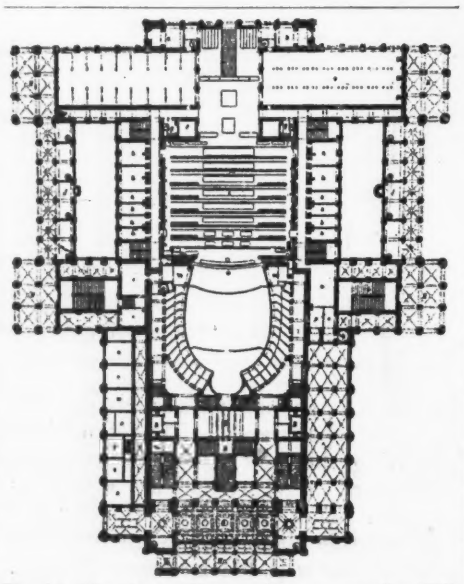

Fig. 14. *The Opera House. Herren van der Nüll and von Siccardsburg, Architects.*
From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

Turning into the Nitchumgengasse, the second building on the left is the Imperial Academy of Art, which is well seen from the little open space in front named after Schiller. The Academy is the recognised school of art; it contains, besides the school, picture and sculpture galleries. It is the work of Baron von Hansen; it is a dingy edifice, the result rather of a poor combination of building materials than of poor design, though it is not one of that architect's best works. Close by, on the Eschenbachgasse is the substantially-built home of the Engineers and Architects' Union and Industrial Society, built in the Renaissance style by the architect Herr Thienemann in 1870. This will in May next be the headquarters of the International Congress of Architects.

Beyond the Imperial stables is the Deutsche Volkstheater, a well-planned theatre of small size by Herren Fellmer & Helmer (see Plate); on the other side of the way is the back of the Palace of Justice; the front lies just out of the Ring, facing the south elevation of the Houses of Parliament. This building is a rare instance of the back elevation being better than the front; the front is broken up into badly-proportioned masses, the centre and end projections having curved roofs with dormer gables, and restless little flechés, too trifling in so large a building. The real beauty of the

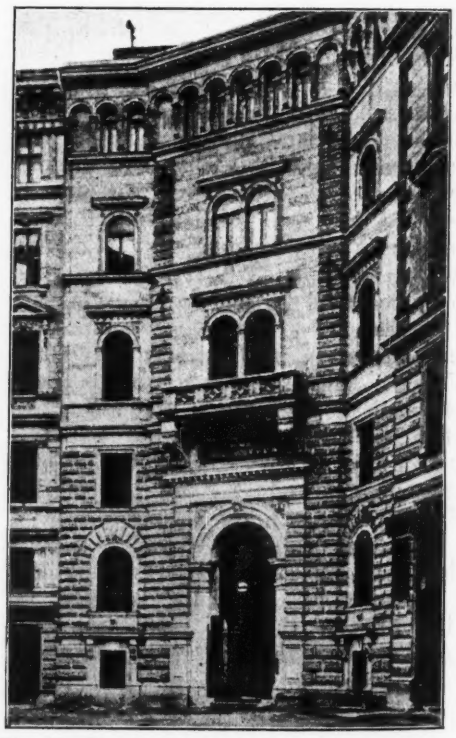

Fig. 15. *The Laenderbank. Baron von Förster, Architect.*
From "XXth Century Vienna." Gerlach & Wiedling, Publishers.

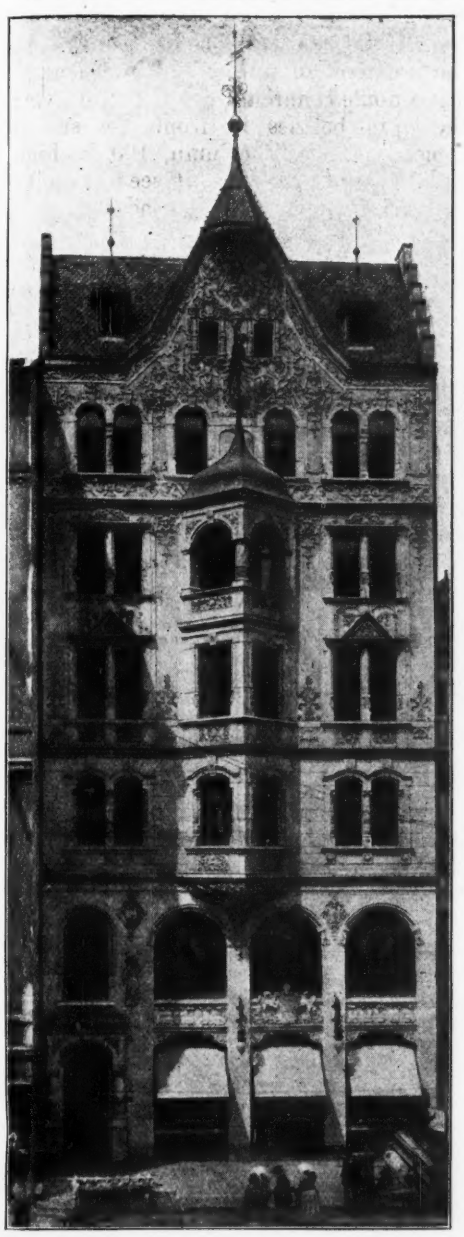

Fig. 16. *Street Front with Central Bay.*

architecture is well shown on the neatly proportioned end and back elevations. The magnificent hall is surrounded by open galleries reached by the grand staircase, which is the central feature of the design; here is another instance of thirty-two steps to a single flight; the hall is top-lighted; the rather heavy character of the architecture is relieved by colour decoration sparingly and with much success. The hall contains a seated statue of Justice by the sculptor Pendl.

Baron von Schmidt was responsible for at least two churches in the outer city. These lie close together; one of them, the Church of Maria von Siege, is an attempt to introduce into a Gothic design that most beautiful of Classical features, the dome. The experiment has been tried since, if not before, by other architects, without any greater success than in the present instance. The church is built on the plan of an octagon, without other projections than an encircling aisle and slight recesses for the chancel and side chapels. The interior is lofty and not without solemnity; the walls are plastered and treated with primitive polychromatic decorations, and there is some good glass in the windows of plain colours. The feature of the internal composition is, of course, the dome, this is surmounted with a Gothic flèche; the front is flanked by square towers set diagonally, buttressed at the base, and tapering to pyramidal stone roofs furnished with finials. The effect is crowded and unsatisfactory. The Lazaristen Church is less ambitious and more successful; an octagonal spire springing from a square base at the crossing of the nave and transepts is the feature of the outside. Within it is a vaulted church of considerable span, the side aisles are the same height as the nave, the lighting being entirely from them. The transepts and chancel are very short; in fact, the motive of church-planning in Vienna is to get as wide a span as possible for congregational worship.

Under the head of Vienna architecture may be included the Schönbrunn Palace (Fig. 24), originally built from the designs of Fischer von Erlach at the end of the XVIIth century, but a good deal altered under Maria Theresa in the middle of the XVIIIth century. On a hill in the grounds is the fine pavilion called the Gloriette (or "Gloriett" in the modern spelling), a monumental pavilion commanding a view; built from the designs of J. F. von Hohenberg (Fig. 25). Another Palace, the Belvedere, erected about the beginning of the XVIIIth century for Prince Eugene of Savoy, is a noteworthy specimen of what may be called pleasure-palace architecture; the entrance to the park and the entrance to the château are shown in Figs. 26 and 27.

In the short space of time at the writer's disposal in Vienna it is not unlikely—indeed, it is highly probable—that he has omitted to notice some noticeable architectural achievement. It would no doubt have been easy to guard against inaccuracy and omission by entrusting the writing of this article to a Viennese architect; but our object, in this and other similar articles on foreign cities, is to give our own opinion on their architecture, not that of their inhabitants. The task of selection was unfortunately greatly simplified by the very general custom of treating new buildings of brick with stucco as though they were really built of stone. There is something so repulsive about this deception,

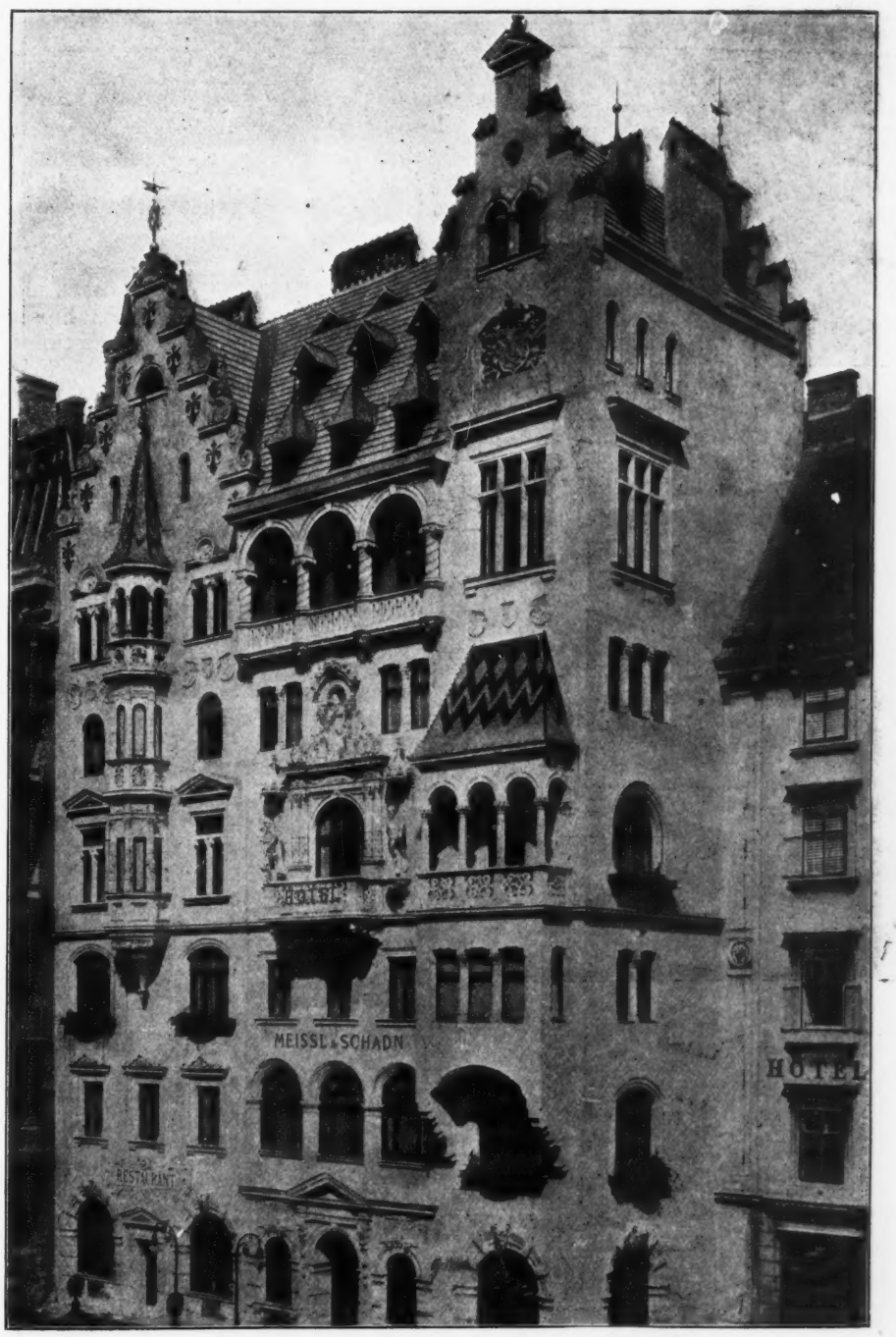

Fig. 17. *A New Street Front in the Old Town.*

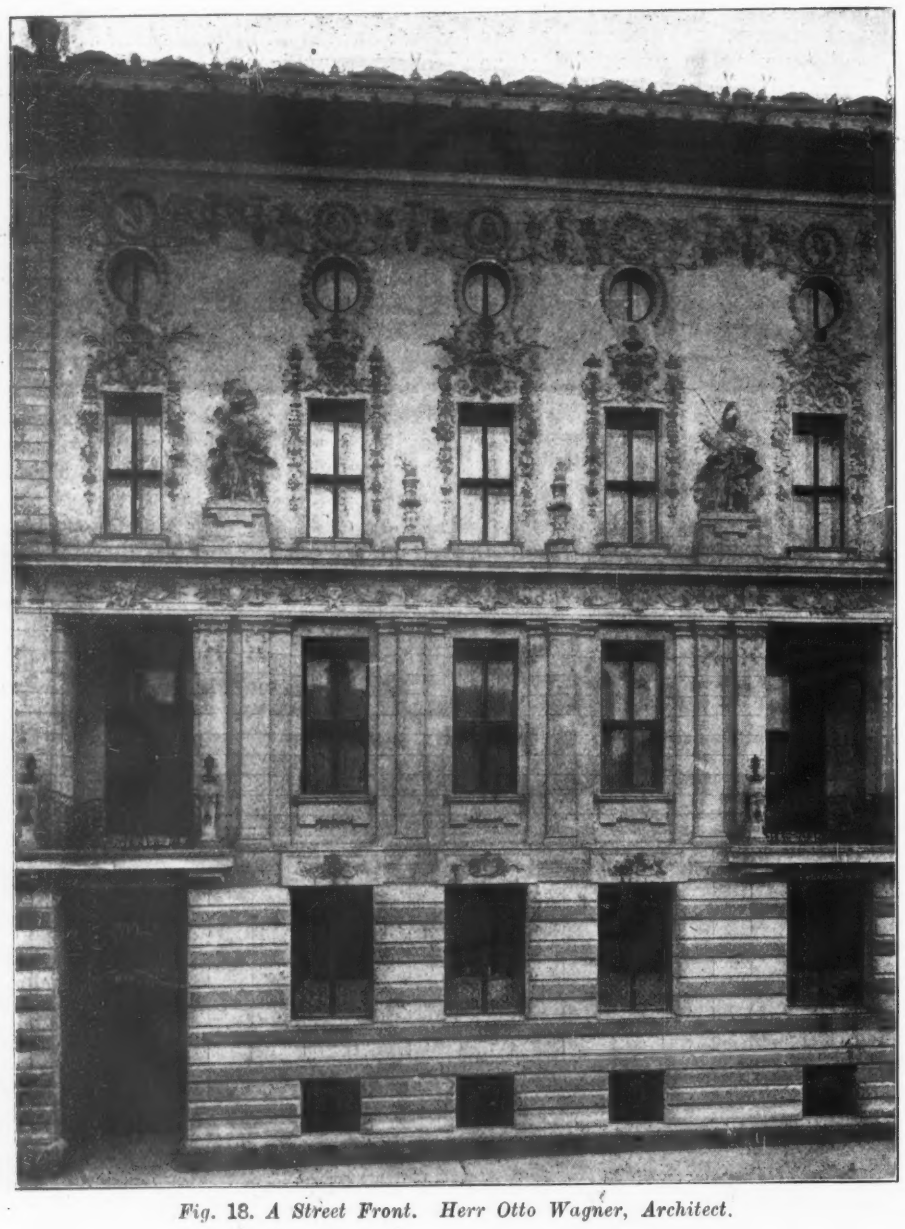

Fig. 18. *A Street Front. Herr Otto Wagner, Architect.*

Fig. 21. *Telephone Centre in the Burg-gasse. Franz Ritter von Neumann.*

From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

Vienna commonplace. To commercial enterprise Vienna owes many of its fine buildings in the past, and it would be a pity for public taste to condone the

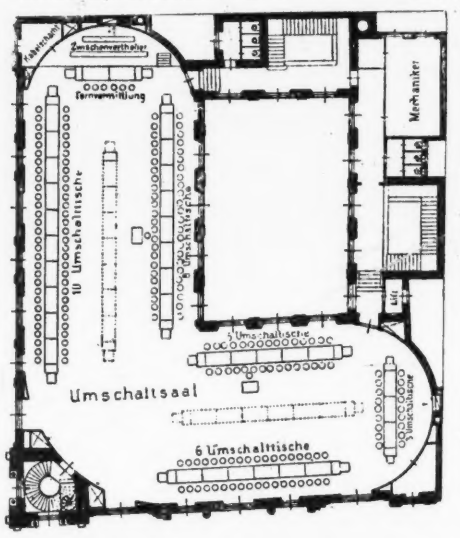

Fig. 22. *Plan of Telephone Centre.*

especially when it is so cleverly done as to be only detected by careful observation, that many large buildings finely designed for stone, and no doubt showing great qualities in plan, are neither remarked on nor illustrated. The old limestone buildings have a certain character not unpleasing to the eye. They are obviously stone, and are often covered with suitable decorations of the same material, but the modern improvments in the art have ruined it, and are threatening to make the new streets of

lowering of the high standard of work set up during the transformation of the city. Perhaps the most remarkable feature of the architecture of Vienna is the number

Fig. 19. *A Bank.*

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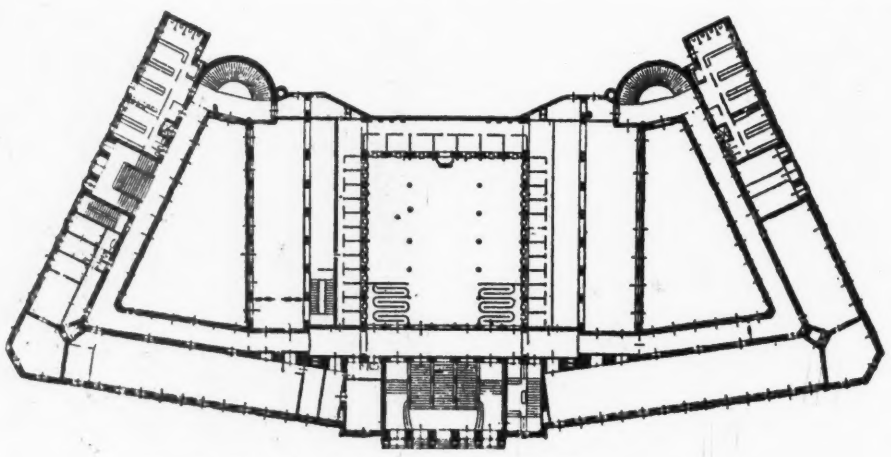

Fig. 20. *The New Post Office. Herr Otto Wagner, Architect.*

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of buildings of first-class importance in proportion to the population of the city. One reason for this is that the Viennese

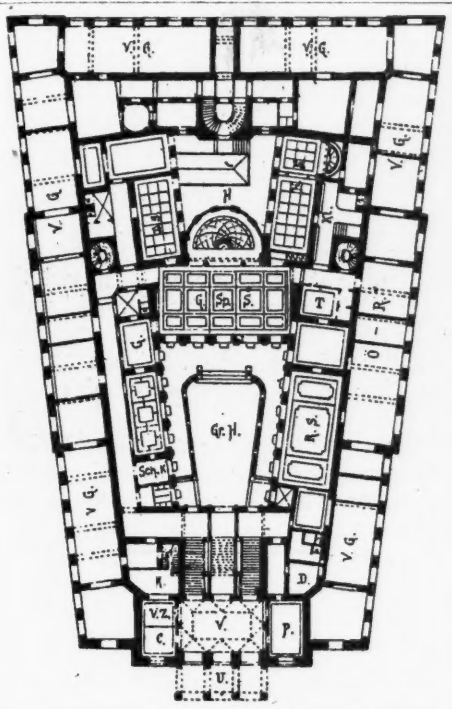

Fig. 23. *Plan of the Hotel Metropole, Morzin-Platz. C. Schumann & L. Tischer.*

From "XXth Century Vienna," Gerlach & Wiedling, Publishers.

usually dwell in flats which are planned in larger blocks than we are accustomed to see in England.*

NOTES.

The Wellington Monument. IN advertising that Mr. Tweed's completed model of the equestrian statue of Wellington would be "open to public view" in its position on the monument, for three weeks, the Dean and Chapter of St. Paul's should also, we think, have provided artificial light to see it by. On Tuesday noon, at all events, it was hardly possible to discern anything more than a silhouette of a man on horseback; it might have been Wellington or any one else. As far as we could discern, the horse's head seems to be treated as rather bending downward, a position adopted perhaps with a view of somewhat assimilating the outline of the group to the curve of the arch over it; a quite intelligible motive as regards composition. The fact is that, in an artistic sense, the monument is quite out of place under the arch, which seems to weigh upon it; it would have had a far finer effect, as a work of art, if placed on the central axis of the nave; but we fully admit that the position would be open to objection on religious, or at all events ritualistic, grounds. In any case, we are glad to welcome the fact that this famous monument is at last on the way to be completed as the original sculptor intended.

* Some of the illustrations of the Votive Church are reproduced from the published work entitled "The Monuments of Vienna," in the R.I.B.A. Library. The large photographic reproductions are by Herren Würthle & Son, of Vienna, and some of the smaller ones are by Herr S. Block, of Vienna; most of the plans in the text are reproduced from "XXth Century Vienna," published by Messrs. Gerlach & Wiedling, of Vienna; the views of Herren Otto Wagner and Ohmann were lent by the architectural publishers, MM. Anton Schroll & Co.

Fig. 24. *Schönbrunn. Fischer von Erlach, Architect.*

The Walls of Rome. IT is to be hoped that the expression of public opinion which has been aroused by the operation of cutting through the ancient wall of Rome in the carrying out of "public improvements" may avail to stop further depredations of this kind. But it should seem that some of the municipal authorities in Rome do not realise that, morally speaking, Rome is a great heritage of antiquity which is the property of the whole world, and that they ought to consider themselves as trustees of it for the civilised world, and not as owners of a property which they are to do what they like with.

Vandalism at the Law Courts. THE erection of a wooden partition in one corner of the great hall of the Law Courts, in order to form an additional court, is an act of architectural vandalism such as we could hardly have believed possible in these days, if we had not actually seen it. The great hall, of course, is a practical failure in regard to its original purpose as a *salle des pas perdus*, owing to its floor not being on the same story as the Courts; but it is at all events a grand architectural interior, which one might have hoped would have been regarded and treated with respect. It is now stated that a temporary court is

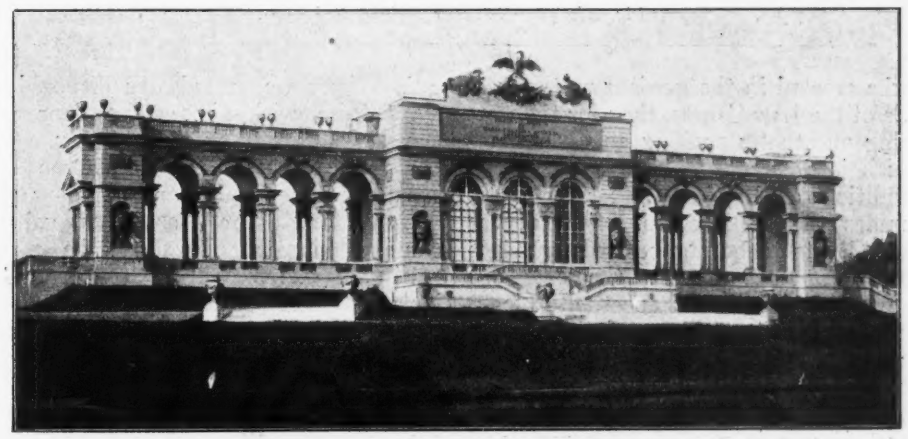

Fig. 25. *The Gloriett at Schönbrunn. Herr von Hohenberg, Architect.*

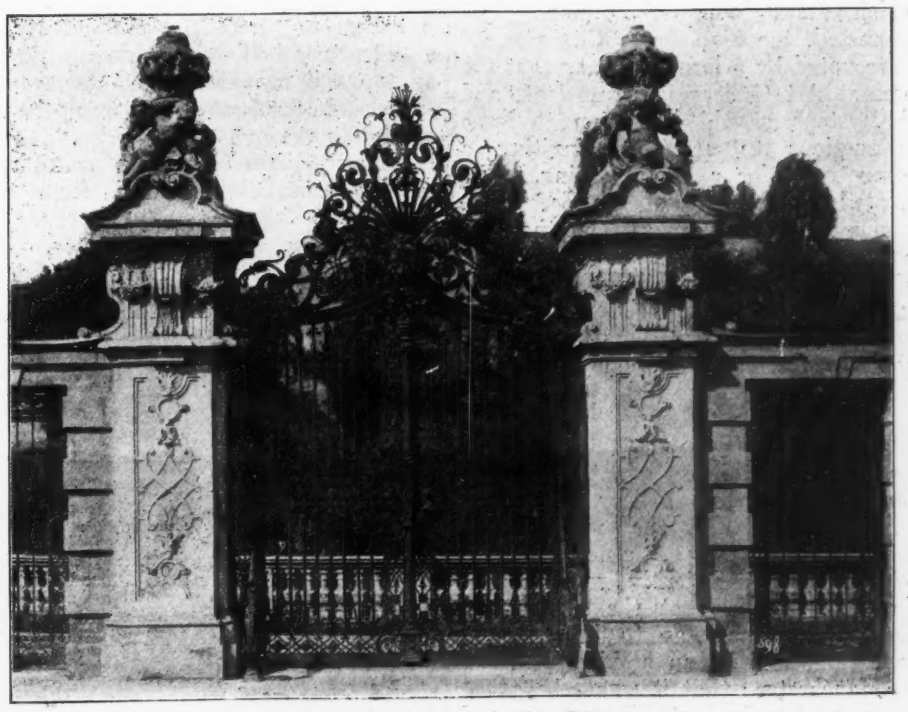

Fig. 26. *The Belvedere. Entrance Gates.*

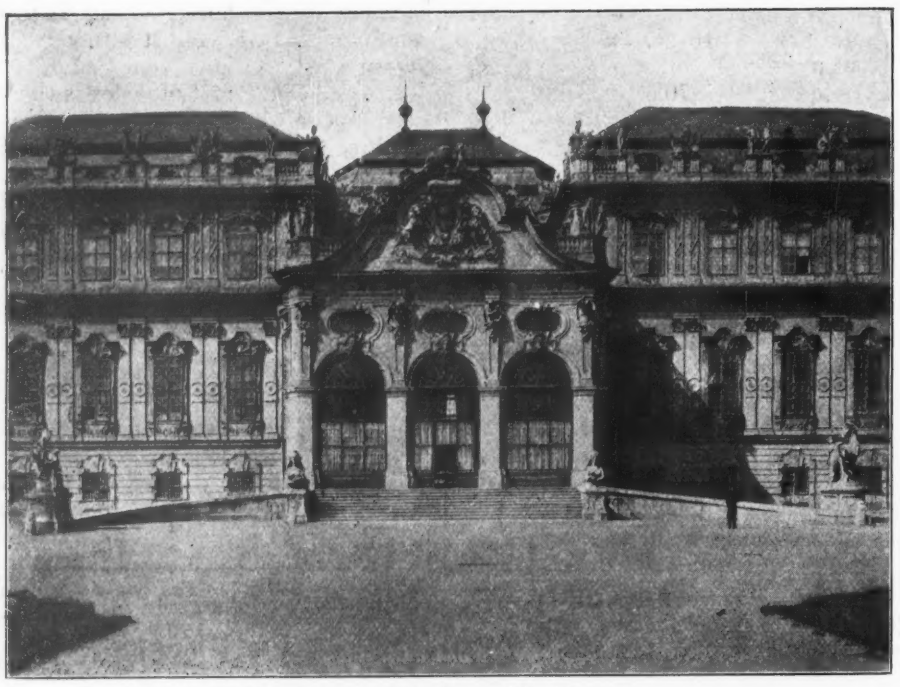

Fig. 27. The Belvedere. The Entrance.

to be erected in the gardens on the west side of the Law Courts, thus for the time being effectually spoiling an open space which is of great value in the crowded condition of London, and which also enables the architectural effect of the Law Courts to be appreciated from one point of view, for on the east the proximity of Bell-yard effectually blocks out a proper view. One of these days the site of King's College Hospital will be vacant, and a portion of this area could no doubt then be secured for a new court if one is needed. Meanwhile it would be preferable to utilise some existing structure such as the Old Hall at Lincoln's Inn, or one of the Official Referees' Courts, rather than erect a temporary court outside the Law Courts, which will inevitably be found inconvenient and unsuitable, and will be a disgrace to the Metropolis architecturally.

Manchester Art Gallery Extension Scheme.

AFTER a great deal of discussion during the last fortnight, in the course of which many opposite opinions were expressed, the Manchester City Council have voted by a large majority that the present Art Gallery is insufficient, and that steps should be taken to issue instructions to architects inviting a competition for a new building to be erected on the site of the Infirmary, which has been purchased by the Corporation. This means the demolition of the old Infirmary building, a proceeding to which strong objection was made by some of the Councillors in a debate about a fortnight ago, on the ground that the Infirmary itself was a good building in the Classic style which it would be a pity to destroy, and that its rooms could be adapted for the purposes of an art gallery at a small cost compared with that which would be incurred in erecting a new building. We do not sufficiently recollect the Infirmary building at the moment to form an estimate as to how far its removal would be an architectural loss to Manchester; that it would be a loss more or less is probable enough, and *primâ facie* we are always disposed to sympathise with those who deprecate the destruction of an old building. But there is one point on which we can speak with certainty: no building not designed and planned as an art gallery can by internal alterations be made really suitable for such a purpose. An ideal art gallery requires special arrangement in regard to planning and lighting which cannot be adequately provided except in a building planned and constructed for that special purpose. Therefore we are inclined to think that the City Council are probably right in their decision, which seems to be now definitely made. The result obviously will be an important and interesting architectural competition.

Floor Collapse at Blackburn.

THE desirability of subjecting old buildings to periodical examination is further emphasised by the startling collapse which occurred a few days ago at Blackburn in Canal Mill, a four-story building used as a paper-bag manufactory. The walls are of brick, and the floors consisted of nearly flat brick arches flagged on top and provided with intermediate supports in the form of cast-iron columns extending through three stories. About midnight a loud crash was heard, and flames immediately issued from the building. Examination by the fire brigade a few minutes afterwards showed that part of all three floors had fallen, leaving an opening of about 60 ft. by 25 ft., from top to bottom of the building. After turning off the gas and extinguishing the flames, the firemen left the mill. Scarcely had they done so when the roof and the remainder of the three floors suddenly fell in, leaving nothing but the four outer walls, and those in a very precarious condition. Judging by the fact that three floors collapsed simultaneously, we think it probable that the cause may have been the failure of a column on the ground floor. The fall of the roof would most likely be due to the displacement of an outer wall, and the impact of the roof material would naturally tend to bring down the remaining portions of the floors. The most interesting fact for discovery, of course, is the exact cause which led to the failure of the supporting column, assuming that to have started the collapse. At present, owing to pending litigation, we are unable to say anything on this point.

Depreciation of Land and Compulsory Powers.

THE case of Horton *v.* Colwyn Bay Urban District Council has been carried to the Court of Appeal, and the judgment in the Court below has been affirmed. This case was noted by us December 1, 1906, and it will be remembered that the local authority had acquired the right, under sect. 16 of the Public Health Act, 1875, to lay certain sewers on the plaintiff's land, and compensation had been made for this. These sewers formed part of a drainage scheme, being connected with a pumping-station erected close to, but not upon the plaintiff's land. The plaintiff claimed compensation for depreciation to his land from the user of these works. Sect. 308 of the Public Health Act, 1875, enacts that where any person sustains any damage by reason of the exercise of any powers of this Act in relation to any matter as to which he is not himself in default, full compensation shall be made to him by the local authority exercising such powers. The Courts have held that the pumping-station was not so connected with the sewers laid by compulsion on the plaintiff's land as to give rise to a claim for compensation. The judgments in the Court of Appeal have not as yet been reported at length, but it would appear that the plaintiff's claim for compensation so far as it arose from the compulsory powers exercised by the local authority had been satisfied. If the working of the undertaking, as apart from its construction, then caused depreciation, the only remedy, if any, would be an action for nuisance.

Sculpture Panel over a Shop in Old Vienna.

The Halifax Tramway Accident.

FROM the Report of Colonel Druitt on the accident which took place in October last at Bolton Brow, it appears that, to reduce risk of back-running on the steep gradients in the Halifax tramway system, some of the cars have been provided with a special electrical device by which the electric brakes can be applied by swinging the power-handle to the last notch and leaving the reversing-lever in the forward position. To apply the brakes for preventing a run-back on the cars not fitted with this contrivance it is necessary to bring the reversing-lever back as well as to move the power-handle forward. The disadvantage of these two different methods is that any driver accustomed to one type of car is very apt to make mistakes on another. This appears to have happened at Halifax when the car began to run backwards. But Colonel Druitt points out that electric brakes can be rendered inoperative by the locking of the car wheels, by a break in the electrical connexions, or by the breaking of an axle, and that more reliance should be placed on slipper brakes for steep gradients; also that it is most desirable that such brakes should be capable of instant application, as when once a car gets out of control on a steep incline it is almost impossible to stop it.

The Pentonville Tramway Accident.

YET another mishap has come to remind us of the dangers which at present attend the conduct of tramway services on steep gradients. This time the runaway car was a vehicle on the newly-electrified line between the Angel and King's Cross. When half-way down Pentonville-hill the driver stopped to discharge some passengers, and on resuming the descent found that the magnetic brake would not act properly. The hand brake was applied, but proved insufficient for checking the speed of the car, which dashed with considerable force into another car standing at the foot of the hill. Fortunately the speed was being reduced by the hand brake before the collision took place, or the results would have been very serious. As it was, eight persons were injured, and the stairways of both cars were carried away. Possibly we shall be told, as on previous occasions, that the brake was not defective, and that the driver alone must be blamed. That sort of excuse may satisfy the people who place so much confidence in existing types of braking apparatus, but it does not appeal to the travelling public, who have a right to expect that tramcars shall be furnished with brakes capable of acting effectively under all conditions.

Portland-place, W.

OUR readers will remember that some months ago the Council of the Institute contemplated the erection of new premises upon the vacant land between Nos. 11 and 13, Portland-place, west side. The ground has recently been taken for a block of flats, to be built by Messrs. Carmichael & Son after plans and designs by Mr. F. T. Verity. It has not been built upon previously, for it forms one of the two remaining portions of the north garden of (old) Foley House, which S. Leadbeater, or Leadbetter, built for Lord Foley in or about 1740; the other portion of the north garden lies in front of the present Foley House opposite. Nash acquired for 70,000*l.* (old) Foley House—where now stands the Langham Hotel—in furtherance of his scheme for laying out Langham-place and Regent-street. For Sir James Langham, Bart., he built, on the north garden site, Langham House, which was pulled down some years ago for a block of flats, now No. 11, Portland-place. A plan showing the several sites we mention will be found in the *Builder* of January 2, 1904; the "No. 68" plotted on the plan is now No. 13, Portland-place.

The "Drag" on Old Stonework.

WE entirely support, on general grounds, the protest which Mr. E. S. Prior has made in a letter to the *Times* against the use of the "drag" in operating on the face of ancient stonework, though without knowing the exact circumstances and reasons which influenced its use on the vaulting-ribs at Winchester we cannot estimate what excuse there may have been for it in this particular instance. In general, the objection to it is not only that mentioned by Mr. Prior, that it "destroys the patera of ancient art," but that it may have the effect of removing a protective surface hardened by time, and of really exposing the stone to disintegration.

Glastonbury Abbey.

THE Bishop of Bath and Wells has published a letter in which he tells the public of the present position of Glastonbury Abbey. The late owner has now transferred the property to three trustees, of which the Bishop is one. The purchase-money is 30,000*l.*, and there is about another 1,000*l.* for legal and other expenses. Of this sum 19,129*l.* has been received in subscriptions and paid to the vendor, the balance remaining on mortgage. Of this balance 4,374*l.* is already promised, so that the amount yet to be raised is 7,497*l.* This statement is satisfactory, for large demands are constantly made on the public, aud the purchase of an historical building, however venerable and interesting, does not open the purse-strings as do more sensational and often less worthy objects. The preservation of such places as Glastonbury Abbey, and their tenure by trustees, is overwhelmingly important, and any failure of an opportunity to preserve these historical buildings can never be regained. Glastonbury is now, fortunately, safe, but we trust that the appeal, for such in effect it is, of the Bishop of Bath and Wells for the necessary funds to complete the transaction will meet with a quick and generous response.

The Six Landscape-Painters' Exhibition.

THE exhibition of the six landscape-painters who periodically exhibit together—Messrs. Leslie Thomson, Austen Brown, R. W. Allan, Jas. S. Hill, J. Aumonier, and A. D. Peppercorn—is now on view at the gallery of the Society of Painters in Water-Colours. The catalogue is prefaced by a quotation from Leonardo da Vinci, encouraging to the critic: "A painter ought not certainly to refuse listening to the opinions of any one, for we know that although a man be not a painter he may have just notions." So we proceed to give our "notions" (just or not); the first of which is that at least nine works in the room, three of Mr. Brown's and six of Mr. Hill's, are not landscapes, and it would be better to keep to the programme implied by the words "Landscape Exhibition" on the cover of the catalogue. Taking the works in the order of hanging, our notion is that Mr. Leslie Thomson has both fine composition and clear atmospheric effect in "West Coast, Scotland," and "Hamble Creek," and a faithful representation of a peculiar character of landscape in "An Irish Bog," with the distant hills showing over what may be called the horizon of the bog. That in Mr. Brown's "A Cloudy Evening" the clouds are too "painty," and that his "Market Morning" is a very effective bit of Picardy landscape, with its thin tree stems forming vertical stripes across the picture. That Mr. Allan's smaller Scotch scenes are full of light and air, and his large picture "Home and Shelter" shows a fine piece of grey stormy sea outside the harbour, and that he is more himself in Scotch than in Japanese scenes. That Mr. Hill's "The River Arun" is by far the best of his landscapes both in composition and lighting (his tendency is to be too dingy in effect), and that his "Cromer" gives a curious impression of being a landscape of a century ago, both in style and its representation of Cromer—certainly not the Cromer of to-day. That Mr. Aumonier's "Under the Beech Trees" is a very fine piece of woodland scenery painted in a powerful yet unpretentious manner. That we never saw, and never expect to see, "A Surrey Landscape" such as Mr. Peppercorn exhibits under that title; that his "Estuary" is preposterous—a kind of "scream" in landscape painting; and that his really powerful qualities are best shown in "An Upland Hayfield," a fine composition with at least some of the colour of nature in it.

Women's International Art Club.

THE fourth exhibition of this Society (the "Internationality" of which does not extend very far), now open at the Institute in Piccadilly, contains nothing of the first order, but maintains a very good average level of interest. Miss Beatrice Bland's landscapes are fine in composition and painted in a masculine rather than a feminine style, but there is a want of daylight effect in them. Mrs. Heriot's "Mrs. Bond" (12) is a highly characteristic and clever portrait. Mrs. Austen Brown's flower pieces, especially "Nasturtiums" (11), are studies in colour of great interest. Among other things we noticed Miss Anna Birch's fine landscape compositions, Nos. 28, 30, and 37, in which there is a touch of genius; Mdlle. Pauline Adour exhibits an interesting large work entitled "Réverie" (41), obviously but agreeably French in style and feeling; Mdme. Galtier-Boissière, another French contributor, paints interiors admirably (46 and 67); and Mrs. Dods-Withers's paintings of old châteaux are as powerful and effective as usual. Among the smaller

and slighter works in the North Room we noticed two clever sketches of sea, "Incoming Tide" and "High Tide," by Miss Ida Kirkpatrick; a good sea sketch by Miss Mary Barton (223); "The Deserted House" and "The Wheelwright's Shop" by Miss Marian Robinson; and a capital landscape sketch, "The Chalk-pit" (224), by Miss Hagarty. There is a good deal of interest in the exhibition.

LETTER FROM PARIS.

THE Government have made to the Paris Municipality new proposals the acceptance of which will have, as a consequence, the preservation of the Galerie des Machines, by the process of taking it down and re-erecting it at Issy-les-Moulineaux near the Seine, to serve as a great hall for horse and cattle exhibitions. If the Municipal Council agree to this, they are to receive in exchange, or at least for a relatively small payment in addition, the ground occupied by the fortifications, which is State property, from the "Point du Jour" to the Porte de Pantin. It is hoped that in that case the Council will resist the offers of the building speculators who are anxious to get hold of this land and cover it with immense blocks of houses and factories. It is appropriate in this connexion to recall the interesting scheme proposed two years ago by M. Hénard, the architect, for the treatment of the fortifications site as a series of public parks and boulevards, leaving a certain area for building, but preserving the greater portion of the ground as open space, to the great benefit of the population of the north and west of Paris.

M. Hénard was also the author of a scheme, more open to question but much discussed, for giving a new life to the Palais Royal quarter by connecting it with the western district by means of a new wide road, to be prolonged as far as the Halles Centrales. A municipal councillor of Paris has proposed a scheme which is a modification of this, for a street to run from St. Eustache to the Place Beauveau, nearly opposite to the Palais de l'Elysée. According to his project, this new avenue will cross the Place Vendôme by means of large arched openings for wheeled traffic and pedestrians, similar to those at the Place du Carrousel known as the "guichets Lefuel," opposite the Pont de Saints Pères. The scheme is quite practicable, and would no doubt justify itself on mere grounds of public convenience, as a new route, but it is a question whether the advantages are such as to compensate for the practical destruction of a portion of Paris so interesting, both in an æsthetic and historic sense, as the present Palais Royal.

No such disadvantage attaches to another long-deferred street improvement scheme which has again come up before the Municipal Council, viz, the prolongation and completion of the Boulevard Haussmann, which ends at present at Rue Taitbout, but would in the proposed case extend to the Boulevard des Italiens, at the corner of Rue Drouot. There is, it appears, a new financial combination which will render possible the realisation of this project, promised and expected for many years past.

The Société Centrale des Architectes has been reconstituting its official staff, and M. Guadet has been elected President.

The formation of the new "Société des Amis de Versailles" is a somewhat important event in Paris, and which is likely to be not without practical results. The Society is presided over by M. Victorien Sardou, who takes a passionate interest in everything connected with Paris history, and the Vice-Presidents are M. Detaille and M. Raymond Poincaré, a former minister of Instruction Publique. The main object of the Society is the preservation and proper upkeep of the Palace and Park of Versailles, and also the conservation of the Petit Trianon, which the Government have seemed disposed to allow to go to ruin.

A few days since there was opened, at the Musée Galliera, an interesting exhibition of "Toiles Imprimées," a class of fabric the manufacture of which is now almost abandoned, but which occupied a number of workers in different parts of France during the XVIIth and XVIIIth centuries. This industry is in the present day carried on only in Alsace, but there has been an effort to revive it in the industrial art schools of Paris; and the exhibition, in addition to a great deal of old work, contains some examples of the modern work in which the Paris art schools have been experimenting.

A Rembrandt exhibition is announced for May next. It will be held in the Bibliothèque Nationale, and will include all the engravings and etchings in the French national collections, as well as those in private collections, the owners of which have been invited to lend them for the occasion.

In April there is to be held, at the Musée des Arts Decoratifs, an exhibition of "Art Théâtral" in which will be collected illustrations of all the decorative work at theatres, by both French and foreign artists, which can be got together, as well as paintings and other works of art illustrating the history of the theatre.

Among works of art at present in progress as Government commissions may be mentioned the study for a great decorative composition by M. Henri Martin, intended for the Sorbonne, and symbolising "le Recueillement de l'Etude."

The Société Centrale has lost one of its members, the late M. Gabriel Aubrun, a Paris architect. We have to record also the death, at the age of ninety, of M. Charles Rossigneux, architect, and member of the "Commission de perfectionnement des Gobelins," chairman of the Fine Art and Construction Committee of the "Société d'encouragement à l'Industrie Nationale," and Vice-President of the Union Centrale des Arts Decoratifs, of which he was one of the founders.

Fifty Years Ago.

FROM THE *Builder* OF JANUARY 2, 1858.

MR. SCOTT, in his work on "Secular and Domestic Architecture," to which we referred on its appearance, maintains that a thoroughly erroneous impression exists as to the principles on which the revival of Pointed architecture is founded and carried on:—

"That it is an antiquarian movement, and seeks to revive all that is ancient, instead of being, as is really the case, pre-eminently free, comprehensive, and practical; ready to adapt itself to every change in the habits of society, to embrace every new material or system of construction, and to adopt implicitly and naturally, and with hearty good-will, every invention or improvement, whether artistic, constructional, or directed to the increase of comfort and convenience."

These are certainly the principles on which the revival should be carried on, and would, doubtless, result in a style adapted to, and representing the age, but which, we are disposed to think, would not have very much in common with XIVth century Gothic. Mr. Scott would employ round arches, or pointed arches, or no arches; would have mullions in his windows, or no mullions; casements or sashes; diamond glazing, or "plate-glass, as undivided as possible;" a high roof or a low roof; and, in fact, if the argument be looked at very rigorously, only fights for those principles which ought to belong to every sound, honest, and mindful system of architecture.

But, it will be asked, are these the principles on which the revival *has* been conducted? And the answer must be in the negative. Precedent, and precedent alone, has governed: the most slavish adherence to prescribed forms has been insisted on, and any architect who ventured on a departure from these, who dared to try the effect of a new combination, or sought to display a spark of invention, was hounded down in the most virulent and contemptuous manner. "Once master the principles of the style," says Mr. Scott, "and work *as freemen*, divesting yourselves of all feeling of being fettered by precedent, and there is no limit to the noble things which may be produced." No limit: and this we have urged for years, suggesting that architects should think more of art and less of style, and begging for protection of those who were anxious to be inventive rather than *correct*.

*** Since the above was written, "the wheel has come full circle," and in place of seeing too great an adherence to precedent, we are rather threatened, in many quarters, with the overthrow of architectural tradition altogether. But it is a gratification to be able to show that when the worship of Gothic precedent was at its height, the *Builder* protested against architecture being regarded as mere adherence to precedent.—ED.

Illustrations.

A NEW YEAR'S CARD.

THE drawing is an illustration of Longfellow's poem "The Bridge," commencing—

"I stood on the bridge at midnight,
As the clocks were striking the hour,
And the moon arose o'er the city
Behind the dark church tower."

It was an old-fashioned timber bridge, probably over the Charles river, that the poet stood on, for he refers to it later on as "the bridge with wooden piers"; and in another verse—

"Among the long black rafters
The wavering shadows lay."

There is a suggestion of picturesque effect in this which always appealed to me, and which I have tried to convey in the drawing; I must do myself the justice to say that it tells a good deal better in the original drawing than in this reduced reproduction; charcoal is delightful stuff to work with, but it is rather capricious as to reproducing, and has hardly succeeded this time quite as well as I could have wished, though I am sure that is no fault of Messrs. Sprague.

It would seem from one of the structural details that the good folk who built the bridge had rather miscalculated the strength of the longitudinal joists carrying the planking of the footway, and that when these began to sag in the middle they attempted to rectify it by the simple expedient of slinging a cross-beam from the heads of the main pier standards by iron rods with adjusting screw nuts. It seems a naïve device, but it may have answered its purpose well enough.

The drawing may not be entirely without its use if it induces some readers to look again at a little poem with much beauty of feeling and expression, by a poet who is somewhat unduly slighted in the present day. H. H. S.

VIENNA ARCHITECTURE.

THE numerous illustrations of buildings in Vienna which are given in this issue are arranged to illustrate, as far as possible, the leading article on the architecture of Vienna.

As the buildings are described in that article, it is hardly necessary to do more here than refer the reader to it.

BRICK-MAKING AND AN ASYLUMS BOARD.—The Lancashire Asylums Board have resolved to make their own bricks on the site of the new asylum at Whalley, and to apply to the Local Government Board for leave to borrow 12,000*l*. on the brick-making account. It is estimated that a probable saving of 6,000*l* or 7,000*l*. will be effected, and Mr. Littler, architect, estimates that there is sufficient good clay at Whalley to make 60,000,000 bricks.

Builders' and Contractors' Column.

REPORT OF THE BUILDING ACCIDENTS COMMITTEE.

THE following are the draft Regulations recommended in the Report of the Departmental Committee appointed to inquire into the dangers attendant on building operations. On these recommendations, and on the voluminous mass of evidence printed with the Report, we shall have something to say next week, and we also invite, for publication in this column, any remarks or criticisms which builders and contractors, as employers of labour, may have to make on the suggestions of the Committee, which here follow :—

"BUILDING ACCIDENTS COMMITTEE.

Draft Regulations Recommended by Committee.

BUILDINGS IN COURSE OF CONSTRUCTION OR REPAIR.

During the construction, alteration, or repair of any building, all contractors and employers of workmen shall observe Part I. of these Regulations.

It shall be the duty of all persons employed to observe Part II. of these Regulations.

PART I.

Duties of Employers.

1. Suitable scaffolding plant shall be provided for workmen where necessary and practicable. All scaffolding, and appliances connected therewith, shall be of sound material and of adequate substance. The parts thereof shall be examined before use and during use as to strength and suitability, and if found defective shall be repaired, or if not capable of repair shall not be used as scaffold plant.

2. Sufficient material shall be provided for, and shall be used in the construction of scaffolds, and when in place shall not be removed until the part to be removed is no longer required for working purposes, stability, or safety.

3. Pole standards shall not be fixed more than 10 ft. apart, and shall be vertical; the ledgers shall be level, and the whole scaffold shall be sufficiently and properly braced. Gabbard scaffolds, frames, standards, or other appliances used as supports for working platforms, shall be of sound construction, and shall have a firm footing and be adequately secured, strutted, and braced.

4. Working platforms of pole, frame, gabbard, or trestle scaffolds shall be closely boarded or planked, and shall be at least 45 in. wide, and no working platform of pole or gabbard scaffolds shall be less than 5 ft. from the top of the standards, except where impracticable.

5. Boards or planks forming part of a working platform or run shall be supported at proper distances and at each end by a putlog or other support. Boards of 1¼ in. thickness shall not project more than 6 in., and planks of 2½ in. thickness shall not project more than 12 in., beyond the end support, unless fixed by nails or otherwise kept from tilting.

6. All gangways used by workmen to carry materials thereon shall be at least 27 in. wide when any part is more than 5 ft. from the ground or floor. The planks forming a gangway shall be so fixed and supported as will prevent undue and unequal sagging. When the slope renders additional foothold necessary, proper stepping laths, the full width of the gangway, at suitable intervals but not exceeding 2 ft., shall be provided.

7. Single plank runs shall not be used, except within 5 ft. of the ground, landing, or covered floor. Runs between 5 ft. and 12 ft. in height shall not be less than 18 in. wide, and those over 12 ft. in height shall not be less than 27 in. wide, and shall be so fastened or supported as to prevent undue and unequal sagging.

8. Loose bricks, drain pipes, chimney pots, or other unsuitable material shall not be used in the formation of, or for raising the levels of scaffolds, runs, or gangways.

9. Scaffolding, gangways, or runs shall not be used for working upon until the construction of that part is completed and the safeguards required by these Regulations properly fixed.

10. Where a scaffold has not been erected by or under the superintendence of the employer whose workmen are to use it, the said employer, before allowing work to proceed thereon, shall satisfy himself, either personally or by his agent, that the scaffolding is in a stable condition, and that the materials used in its construction are sound, and that the required safeguards are in position, and he shall be responsible for the same so long as his workmen continue to use it.

11. Scaffolding in use shall be examined once a month by a competent person deputed by the employer responsible for the scaffolding, who shall make an entry in the prescribed Register to the effect that he has examined the scaffolding and its fittings and connexions, and found them in good order, and that any fault found has been rectified.

12. Working places and approaches thereto shall be efficiently lighted.

13. Gangways, runs, and staircases shall be kept free from unnecessary obstructions.

14. Every working platform more than 12 ft. above the ground, gantry, or floor shall be provided on the side away from the wall, and at each end, with :—

(*a*) continuous guard rails, not less than 3 in. by 2½ in. of deal or of equivalent section and strength, fixed at a height of 3 ft. 6 in. above the scaffold boards (except where continuous ledgers are fixed in advance at a height not exceeding 4 ft. 6 in. above the platform, measured to the top of the ledgers); and

(*b*) continuous guard boards of sufficient height (but not less than 7 in. above the platform) to prevent material falling from the scaffold;

except where access is required for workmen or material. If the scaffold is used as a gangway from one part of the building to another, guard rails between 3 ft. 6 in. and 4 ft. high shall also be provided.

15. Poles used for scaffolding shall have the bark stripped off.

16. Putlogs shall be securely fastened, and at least two-thirds of the original number supporting each platform or scaffold shall remain in position until the scaffolding is finally removed. This shall not apply to working platforms at 10 ft. or less from the ground or floor.

17. Poles, planks, ropes, or other materials shall not be thrown from a scaffold, floor, window, or other opening over 20 ft. above the ground, but shall be properly lowered.

18. The working platform of outside scaffolding nearest the eaves shall remain in position until the carpenters, slaters, tilers, plumbers, and other workmen have completed their work on the roof, and a section of the scaffold shall be left at any part of the building at which plumbers have work to do, unless a scaffold is erected for their use.

19. For work on the roof of a new building, or where there is extensive repair on a roof and there is no pole or other scaffolding, or parapet wall, there shall be constructed a jib or cantilever scaffold not more than 30 in. below the eaves, with a platform at least 45 in. in width with proper guard-rails and guard-boards.

For work on the slope of the roof, scaffolding shall be constructed with proper framed brackets or cripples suited to the slope of the roof and suspended from the ridge or rafters by scaffold cords or wire ropes. The working platform on these brackets to be of planks not less than 9 in. by 1½ in. and not more than 12 ft. long. In addition, a sufficient quantity of duck ladders or crawling boards, properly secured, shall be provided. Such boards shall be not less than 9 in. by 1¼ in., with stepping laths of 1½ in. by 1 in., securely fixed at convenient intervals. The bolts for securing the suspending ropes shall not be less than ⅝ in. in diameter, with a wood-screw end for screwing into the timber and a proper eye for receiving the rope.

Scaffolds shall not be supported by cast-iron eave gutters.

20. Cantilever or jib scaffolding shall be constructed of strong bearing timbers, or steel joists, securely fixed and anchored from the inside and of sufficient length to ensure stability, and shall also be properly braced and supported.

21. Every working platform erected on trestles (except painters' trestles) shall, where the trestles are 5 ft. or more in height, be of a width of at least 5 ft. 3 in., and where the trestles are of less height than 5 ft. shall be of a width equal to the height of such trestles. Trestle scaffolds of more than three tiers and exceeding 15 ft. above the ground or floor shall not be used. The boards forming working platforms for internal work for the use of plasterers and painters shall not be spaced more than 7 in. apart.

22. When bedding or fixing door or window frames a floor or platform shall be provided to enable workmen to perform their task without danger to themselves or those below them.

23. On every suspended scaffold not exceeding 10 ft. in length, the platform shall be at least 18 in. wide and of adequate thickness. Such scaffolds exceeding 10 ft. in length shall be of proportionate strength. There shall be at least two supporting fibre ropes of ¾ in. diameter, or wire ropes, or iron hangers of equivalent strength, for every two men on such scaffold, and continuous guard-rails shall be provided, securely fixed at a height of 3 ft. 6 in., and also a continuous guard-board not less than 4 in. above the platform.

Trestles or other means of increasing the height shall not be used on suspended scaffolds of less than 30 in. wide.

When a skip or large basket is used as a suspended scaffold for one man, it shall be not less than 2 ft. 6 in. deep, and shall be carried by two strong iron bands properly fastened and continued round sides and bottom with eyes in the iron to receive the ropes.

Platforms resting on wooden bearers let into the wall at one end without other support shall not be used except such as go right through the wall, are securely fastened, and are of sufficient strength.

Figure or bracket scaffolds fixed by strong iron dogs or spikes driven into the wall shall not be used except for the purpose of pointing or cleaning down stone walls, or repairing chimney stacks, and shall be well made of strong materials, and when of wood, strapped with iron at the angles. The working platforms shall not be less than four 6½ in. by 2½ in. planks wide, and shall be efficiently guarded. They shall not be fixed at a height less than 5 ft. from the eaves.

24. Planks supported by ladders, steps, or folding trestles shall not be less than 9 in. wide and 1½ in. thick, and shall not exceed 9 ft. bearing. Where steps are used, the platform shall not exceed 7 ft. in height.

25. Ladders used as a means of communication in, on, or about a building under construction or repair shall rise at least 6 ft. above the place to which they give access, shall not be raised on bricks or other loose packing, but shall have a level and firm footing, and shall be securely fixed so that they cannot move from their top point of rest, and if of more than forty rungs shall be stayed in the centre of length. Ladders which cannot be secured at the top shall, if over 25 ft. in length, have a man stationed at the foot to prevent slipping, or shall be securely fastened at the base. A ladder having missing or defective rungs shall not be used.

Ladders made from sawn timber shall not be used unless of adequate strength and the steps securely notched in or housed.

26. Openings left in the floors of buildings or working platforms for elevator shafts, stairways, or for the hoisting of material, or for access by workmen, or other purposes, shall be securely fenced by guard-rails 3 ft. 6 in. in height, and by guard-boards at least 7 in. high, or be completely covered with planking.

27. Each floor of the building below which workmen work or pass shall be covered in such a manner as to be an efficient protection to the men beneath.

28. The stage for every crane shall be built of sound material, shall be of good mechanical construction having regard to its height and the lifting and reaching capacity of the crane. It shall be securely anchored to a solid foundation. The platforms for the driver and the signalman shall be of sufficient area, close-planked, securely fenced, and provided with safe means of access.

29. The working gear of cranes, crabs, and all hoisting apparatus and of anchoring appliances, and all bolts and cotters, shall be easy of access for inspection: the working gear shall be kept in good repair and working order, and shall be cleaned and examined at least once every week.

The ropes or chains shall be securely fastened to the barrels.

30. Every crane shall be provided with proper brake power and shall have the safe load plainly marked upon it. No crane or gear shall be loaded beyond the safe load. No load shall be left suspended from a crane unless there is a competent person actually in charge whilst the load is so suspended. The lever controlling the link motion reversing gear shall be provided with a suitable spring locking arrangement.

Every type of hoisting machine, tackle, or apparatus, and the appliances connected therewith, shall be of good mechanical construction, sound material, and of adequate substance, and shall be properly and securely fixed and of suitable strength.

31. Chains used for hoisting purposes shall have been tested, shall be annealed once a year, and shall be examined by a competent person every three months. The safe load indicated by the test, and the date of last annealing, shall be entered in the prescribed Register kept on the premises.

32. Crane drivers shall be properly qualified men. No person under seventeen years of age shall be employed to give signals to a crane driver.

33. Signals for hoisting shall be such as can be readily heard or seen, and shall be distinctive in their meaning to the person who has to act upon them. Where a sound signal is used, the signal shall be made by an efficient gong, whistle, or electrical apparatus. The signal wires shall be protected from accidental interference.

34. Boxes used for hoisting bricks or other loose material shall be closed in on the four sides.

35. Proper safety or spring hooks only shall be used when hoisting barrows, or buckets, or baskets; the latter shall be of a type not depending entirely on the handles for support.

36. Rails on which travelling cranes are run shall be of uniform section, shall be secured by fishplates, and shall rest on sleepers.

37. The fly wheel of every engine, all dangerous parts of the machinery, every part of the millgearing, and electrical conductors and switches shall be securely fenced, or be in such position or of such construction as to be equally safe to every person employed as they would be if they were securely fenced. Water gauge glasses on steam boilers shall be adequately protected by a guard.

38. In all excavations, except in rock, necessary timber struts, waling planks, and boards shall be provided and used; and in works of underpinning, the adjacent walls and ground shall be properly shored and strutted.

39. Washing conveniences shall be provided for the use of painters and plumbers, with a sufficient supply of water, soap, nail brushes, and towels, and at least one bucket or basin for every five persons.

40. Painters or plumbers shall not take their meals, or deposit clothing put off during working hours, in the paint mixing room or the plumbers' shop.

41. Rubbing down or scraping of painted surfaces containing lead shall, where practicable, be done by a moist method.

PART II.

Duties of Workmen.

During the construction, alteration, or repair of any building, the workmen who use any gangways, working platforms, scaffolds, trestles, gabbards, ladders, cranes, machinery, or other appliances, shall observe Part II. of these Regulations.

42. They shall co-operate with the employers in carrying out Part I. of these Regulations, and shall report to the employer or foreman any defect they may discover in the plant or appliances.

43. They shall not interfere with, take away, or destroy any of the plant, appliances, or safeguards required by these Regulations, without the authority of the employer or his responsible foreman.

44. They shall not be carried by the cranes, or ride in barrow hoists or hod hoists, or adopt other unsafe means of getting about the building, but shall use the gangways, ladders, or staircases provided for the purpose.

45. Painters and plumbers shall carefully clean and wash their hands before leaving the premises or partaking of food, and shall not partake of food in the paint mixing shop or plumbers' workshop.

46. Suitable overalls shall be worn by plumbers and all persons employed at mixing or using paints or other material containing lead or lead compounds, and shall be washed once a week. The overalls shall not be worn at meals.

WM. DAWKINS CRAMP,
on behalf of the Committee.
October 15, 1907."

Miscellaneous.

Messrs. Patman & Fotheringham have secured the contract for the Norwich Union Insurance Society, at the corner of St. James's-street and Piccadilly. This is to be a building with a marble front. Messrs. Runtz & Ford are the architects.

The Savoy Hotel, Newport, Monmouth, is now complete, adjoining the New General Post Office and Great Western Railway approach. The architect is Mr. Gardner, of Newport, and Mr. W. Linton, contractor (Newport), has carried out the work. Monk's Park Bath-stone has been used for the dressings.

Messrs. Liberty & Co. are carrying out the contract for decorating and furnishing three floors, containing 150 rooms, of the new Piccadilly Hotel, in the early English, Georgian, French, and other styles.

A new system of electric ventilation has recently been installed at the Bon Marché, Stoke Newington, under the direction of the Company's Consulting Engineer, Mr. F. H. Taylor. With the adoption of the ventilating system, coupled with electric lighting, it has been found possible to bring additional departments into use.

The British Flooring Company (London), who have appointed Mr. Jos. Grey, of Newcastle-on-Tyne, their representative in the North of England, have recently secured contracts in Grosvenor-square, Wimpole-street, Bruton-street, Old Bond-street, Edmonton, Luton, Oxford, Birmingham (several), Wishaw, and South Wales, for parquet, wood blocks, mosaic, marble tiles, and cementolith floors.

The United Kingdom Fireproofing Company have secured the contracts for the whole of the steelwork, fireproof floors, etc., for the New Telephone Exchanges at Glasgow and Dalston; these are in addition to the large Telephone Exchange at Manchester, which they are at present carrying out.

Messrs. Doulton & Co., Ltd., have supplied all the bath fittings at the public baths and wash-houses at Plumstead, recently opened, from the plans of Mr. J. Rush Dixon, Engineer and Surveyor to the Borough of Woolwich. These valves are a special combined pattern, the water can be regulated to any temperature, but they are arranged so as to prevent any possibility of scalding.

The Armorduct Manufacturing Co., Ltd., have recently purchased the patent obtained by Mr. H. C. Pearson, of Manchester, for his grip fitting, which provides for electrical continuity, and will be very shortly placing this device upon the market.

A large clock has just been erected in the church at Clifford Chambers, Stratford-on-Avon, by Messrs. John Smith & Sons, Midland Clock Works, Derby. It is being fitted with all the latest improvements, and generally to the designs of the late Lord Grimthorpe. The same firm made a clock for Halford Church in the immediate neighbourhood about thirty years ago.

Engineering Societies.

JUNIOR INSTITUTION OF ENGINEERS.—Visits of this Institution were recently paid to (1) the site of the Franco-British Exhibition at Shepherd's Bush, covering an area of 140 acres, for an inspection of the constructional engineering work, etc., in process of erection there; (2) the Exhibition Extension Works of the Central London Railway; and (3) the Generating Station of that railway. The exhibition buildings, having advanced to about the half-finished stage in their construction, were examined with great interest, under the guidance of Mr. J. S. Ferguson, Mr. L. H. Rugg, and other gentlemen, the features calling for special observation being pointed out. The Central London Railway Extension to the exhibition will form a loop at the end of the railway, running up from the present Shepherd's Bush Station, passing through the yard, where a station will be constructed convenient for the exhibition, and descending again by a tunnel that is now being constructed to the present Shepherd's Bush Station. In this way the trains will run round instead of being, as at present, "crossed-over" at the terminus. At the Generating Station, the Chief Engineer, Mr. E. Grove, Mr. C. Forgan, and other officials showed the members round. The current is generated at 5,000 volts alternating, and is sent out to transforming stations at Notting Hill-gate, Marble Arch, Bond-street, and Post-office, where it is reduced to 550 volts direct, and at that pressure delivered to the motors. The engines consist of six horizontal cross-compound condensing, made by Allis, of Milwaukee, United States of America, and run at ninety-six revolutions per minute. The electric generator is fixed directly to the fly-wheel. Each is 850 kilowatt capacity, or about 1,000 horse-power. Five engines only are required at time of greatest load. An additional engine for 2,000 kilowatt capacity is now being installed. There are sixteen Babcock & Wilcox boilers, and four of the Lancashire type. Klein and Wheeler cooling towers are used, and there is also a brick tower. The water supply is obtained from two artesian wells, one fitted with a deep-well pump, the other lifting by compressed air. The output of current amounts to about 50,000 units per diem. The car-sheds and repair-shop were also seen. At the ensuing meeting a paper on "The Conduit System of Electric Tramway Construction" is to be read by Mr. Fitzroy Roose, of the London County Council Tramways Reconstruction Department.

CENTRAL FIRE-STATION, SUNDERLAND.—The new central station of the Sunderland Fire Brigade is now practically completed. The building comprises stables, engine-house, recreation-rooms, dormitories for sixteen single men, with bathrooms and kitchen and messroom adjacent. Twelve married men and their families are provided for in another part of the building. Messrs. W. & T. R. Milburn and Messrs. Wills & Anderson were joint architects. Mr. J. W. White was the contractor, and Mr. T. Cook the clerk of works.

Competition.

PROPOSED NEW MUNICIPAL BUILDINGS, HERTFORD.—The competitive plans of the new municipal buildings proposed to be erected by the Corporation of Hertford on the site of their old property in the Wash were exhibited in the Corn Exchange for the inspection of the Committee on the 17th ult. Ninety-eight sets of plans were sent in, and of those four competitors were selected for final adjudication, viz., Mr. Charles Carter, of Nottingham; Messrs. G. and R. P. Baines, of London; Mr. Clifford A. Aish, of Ealing; and Mr. A. F. Scott, of Norwich. Mr. J. P. Briggs, F.R.I.B.A., was called in to assist the Committee in their selection. The buildings are to cost 3,500*l.*, and will consist of three stories. The Committee of Selection consisted of the whole of the Corporation, and they balloted for the final choice, with the result that Mr. Carter's designs were placed first, Messrs. Baines's second, Mr. Aish's third, and Mr. Scott's fourth.

Books.

Tabular Aids to Valuation for Ascertaining the Purchase Price of Building Estates, etc. By GEO. TYRRELL MCCAW, F.S.I., and F. OLIVER LYONS, F.S.I. (London: Crosby Lockwood & Son. 1907.)

THIS work, though modest in point of size, fully justifies its title, it being one of the most useful "aids to valuation" that it has been our pleasure to peruse. Broadly speaking, it consists of a series of tables, which the writers hint rather than assert are either new or old ones recast. In this we can agree, as although in practice the systems adopted have often been used, as far as we know this is the first occasion in which they have been tabulated in such a convenient form.

Valuation can never be an exact science, and no formulæ of tables can take the place of experience. Of this the authors are well aware, and rightly emphasise the fact in Part II.:—"Tables framed from experience," dealing with repairing leases; deductions for maintenance where the site value exceeds one-third of gross value; and site value—its variation with depth. These are given with a proper reservation as to special circumstances, but they will probably be found suggestive in practice, even if they cannot be directly applied.

The authors have gone to great trouble in explaining the application of the various tables, also in giving suppositious examples, and we have little doubt that the purchaser of this work will find—in the words of the authors—that it will do a good deal towards "alleviating drudgery, in aiding individual effort, and in rendering the general practice of valuers throughout the country more uniform in some respects." It has obviously been dealt with by practical men with their hearts in their work, who are to be congratulated upon the achievement of infusing life into what is often considered a somewhat dull and dry subject.

A Handbook of Practical Gasfitting. By WALTON GRAFTON. Second Edition, considerably enlarged. (London: B. T. Batsford. 1907.)

THE first edition of this book was published in 1901, and received favourable notice in these columns. This second edition consists of eleven short chapters and an appendix added to the chapters which appeared in the first edition. The first twenty-three chapters are those which formed the first edition, and have not been revised. Many changes have taken place in the general methods of using gas since 1901, and some of the matter in the earlier chapters of this book is, therefore, antiquated. Too much prominence is, for example, given to methods of lighting with flat-flame burners. If the chapters at the end of the book are read in conjunction with the corresponding chapters in the earlier portion, fairly satisfactory accounts of the various subjects are obtained; but the book would have been better if it had

been thoroughly revised, out-of-date paragraphs being deleted, and the added notes inserted in their proper places.

The titles of the new chapters (Chapters 24 to 34) are:—(24) Incandescent Flat-flame Lighting; (25) Incandescent Mantles; (26) Further Methods of Incandescent Lighting; (27) Inverted Gas Burner Lighting; (28) Pendant Incandescent Lighting; (29) Gas *v.* Electricity; (30) The Inverted Burner for Street Lighting; (31) Switch Gas-lighting; (32) Gas Geysers; (33) Modern Lighting of Workshops; (34) Defective Gas Pipes.

Gas-fitters and all concerned with the use of gas for lighting or heating in buildings will find in the book a large amount of useful information.

BOOK RECEIVED.

DECORATORS' SYMBOLS, EMBLEMS, AND DEVICES. By G. Cadogan Rothery; with designs by E. Fletcher Clayton. (The Trade Papers Publishing Company.)

Trade Catalogues.

MESSRS. DRAKE & GORHAM send us a bound edition of their complete catalogue, a book of nearly 300 quarto pages, entitled "Electric Lighting Plant and Accessories." The catalogue is also published in eight separate sections, copies of which we have received, bound in stiff paper covers. Each of these sectional lists deserves a few words of comment, and the whole collection forms a useful addition to the catalogue library of the architect or the engineer. Section A is devoted to steam boilers, steam, gas, and oil engines, producer-gas plant, water turbines, and engine-room sundries. Section B is a catalogue of shafting, pulleys, belting, and other power transmission appliances. Section C contains particulars and illustrations relative to continuous current dynamos and motors, switchboards, switch gear, ammeters, voltmeters, electricity meters, earthing devices, and numerous accessories. Section D is a useful guide to the selection, purchase, and operation of storage batteries. Section E gives lists of wires, cables, and accessories for electric light and power, telephone, and bell installations, as well as illustrations and particulars of lightning conductors. Section F is a catalogue of carbon filament, tantallum, and Nernst incandescent lamps, arc lamps, switches and fittings, wood casing, and steel conduit tubing and fittings. Section G contains a well-selected assortment of illustrations, accompanied by appropriate descriptive matter, of electric bells and telephones, electric heating apparatus of various kinds, and electrically-operated ventilating fans. Section H is in part devoted to electric motor-driven machinery, but also contains particulars of sundry types of machines and fittings supplied by the firm, but which have no connexion with electricity or electric lighting plant.

The Hopkinson Gas Plant Company, of Huddersfield, have sent us their list of suction, suction-pressure, and pressure gas plants. Gas generated in the suction plant can be used only for power purposes, but the gas from a suction-pressure plant can be used also for furnaces, stoves, and Bunsen burners. The gas drawn from an ordinary suction plant is not under presure, and cannot, therefore, be used as a supply for burners; but by connecting a fan to the outlet of the generator of a suction plant air can be drawn into the generator, and the gas delivered under pressure to the point of ignition. In the pressure plant air under pressure is blown into the generator, and the gas is stored in a gas-holder. In each case the generator is connected to a coke scrubber. The scrubber may have its upper portion arranged as a purifier, the purifying material being placed in a suitable tray. In a table giving the comparative costs of power derived from gas, steam, and electricity it is shown that a suction plant fed with coke at 12s. per ton is the cheapest source of power. Next in order is placed a suction plant fed with anthracite at 30s. per ton; then town gas at 1s. 6d. per 1,000 cubic ft.; then steam with coal at 10s. per ton; electricity at 1d. per unit is the most costly. It is obvious that local circumstances or requirements may completely alter the economic order of the different power producers.

Messrs. Goodwin, Barsby, & Co., of Leicester, send us a little pamphlet relating to a newly-patented apparatus for the consumption of smoke and the consequent economy of fuel in steam boilers. The "Acme" smoke consumer, as the appliance is termed, consists of a simple arrangement by which heated air is induced into the boiler furnace by the agency of automatically-controlled jets of steam, and it is claimed that the quantity of air so introduced is sufficient to insure perfect combustion. From illustrations given in the pamphlet we gather that the device can be very readily attached to any boiler, the pipe supplying steam to the jets being passed through the middle of the furnace door, the opening and closing of which regulates the steam supply valve. As the makers offer to fix the consumer on the free-trial system, those of our readers who wish to test its qualities before definite purchase have every opportunity of doing so in the most satisfactory of all ways.

The Student's Column.

REINFORCED CONCRETE BEAM FORMULÆ.—I.

INTRODUCTION—NOTATION AND ALGEBRAICAL FORMS.

INTRODUCTION. — In the year 1903, when reinforced concrete was quite in its infancy so far as concerned the United Kingdom, we published, under the title "Concrete-Steel," a series of articles * devoted chiefly to the essential principles governing the application of the new structural material.

Subsequent investigation has in no way affected the accuracy of the statement there made relative to the general theory of concrete-steel or reinforced concrete, although it is true that additional knowledge has been gained as to some of the properties of concrete and the influence of the steel used as reinforcement.

For example, doubt has been thrown upon the accuracy of the conclusion drawn by M. Considère, from the results of his investigation reported to the Académie des Sciences in 1902, to the effect that concrete in combination with steel was able to submit without rupture to a proportionate distortion of twenty times that at which plain concrete would fail in tension. Professor Talbot, Professor Turneaure, and M. Christophe conducted experiments a year or two later, from which they concluded that reinforced concrete does not really possess the property attributed to it by M. Considère, but that the concrete is ruptured at the same proportionate distortion as that corresponding with the rupture of plain concrete, although the cracks are so finely subdivided and so uniformly distributed as to be almost imperceptible. M. Considère next made a second investigation, in consequence of which he reaffirmed his previous contention, but admitted the possibility that cracks might arise in practice owing to the contraction of concrete hardened in air and the resistance offered by the reinforcement to such contraction. The upshot is that designers cannot rely upon the greater proportionate distortion indicated by the researches of M. Considère.

In another respect there has been a noteworthy development since the date of our introductory series of articles. We refer to the numerous mathematical investigations made by various authorities with the object of accounting by rational formulæ for the behaviour of reinforced concrete beams.

Empirical formulæ, and some of the complicated equations formerly in use, are being superseded by more accurate and more convenient aids, and for the design of practical beams the theory based upon what is termed the "straight-line" stress-strain curve has been adopted by leading authorities in Great Britain, on the Continent, and in America.

Unfortunately, it happens that owing to differences of notation and algebraical forms of expression many formulæ of identical origin and purport are written so that they appear to be quite different one from another, thus giving rise to much unnecessary confusion and leading the unitiated to suppose that no two authorities are able to agree as to the manner in which beams ought to be designed.

The main object of the present series of articles is to set forth simple formulæ, based upon principles that have been accepted by the best authorities, for the design of reinforced concrete beams, and from these formulæ to deduce still more simple working rules for everyday use.

In Articles I. to IV. we deal with the divergent systems of notation and algebraical expression by which various similar reinforced concrete beam formulæ are disguised so as to appear dissimilar. In Article IV. we tabulate a system of propoesd standard notation, which is adopted in all subsequent articles, and show that several well-known formulæ of apparently different purport can all be reduced to identical terms by translating the factors into the language of the proposed standard notation.

Our hope is that this study will have the effect of removing some of the distrust created by apparent differences between well-known equations, and that it will also be of service in making clear the fact that the formulæ stated in succeeding articles are based upon generally accepted fundamental principles, and so are not to be regarded as constituting another new theory of reinforced concrete beam design.

The formulæ and working rules have been prepared for the design of rectangular and T-beams with both single and double reinforcement, and cover all cases likely to occur in ordinary practice.

NOTATION AND ALGEBRAICAL FORMS.

(1.) *The Need of Standardisation.*—One difficulty encountered by all who have studied the subject of reinforced concrete design is that occasioned by the differing notation and algebraical forms by which various authorities express their equations.

Not only are there considerable differences in these details, but divergent opinions exist relative to the respective merits of the "straight-line" and "parabolic" stress-strain curve theories, and to the practical value of concrete in tension, and some engineers, disregarding theories which stand upon a rational basis, continue their adherence to empirical rules whose only justification is that they are founded upon actual experience and give results that have been found satisfactory.

At the moment we find no marked indication of approaching agreement among the theorists and practical engineers of any individual nation in respect of standard notation and algebraical forms for reinforced concrete formulæ, and still less sign of any international movement in the same direction.

Until quite recently, almost every writer on the subject of reinforced concrete seems to have thought it his duty to evolve a new theory, and even now that the straight-line theory has been accepted by the British Reinforced Concrete Committee, the Prussian Government, the French Commission, and many authorities and writers in the United Kingdom, on the Continent, and in America, the advantages that ought to follow have been minimised by notation and algebraical forms of needlessly varied character.

The authors of some treatises have been so far merciful as to preface their demonstrations by complete schedules of notation. The usual practice, however, is to give definitions of symbols in the letterpress, where they can only be found for purposes of reference with a maximum amount of trouble. But, supposing the meanings of the symbols have been duly found, it is very difficult for the reader to avoid being misled at times by characters which distinctly suggest things quite different from those intended, and it is always difficult to compare formulæ one with another without rewriting them upon a common system of notation.

The reason for this state of confusion is to be found in the fact that most writers have simply employed symbols which suit the immediate purpose to which they are applied,

* The *Builder*, Vol. lxxxv.

but are not capable of general application; and in some cases have attached new significations to various characters which have been used for many years past in general engineering practice, and thereby have acquired recognised meanings.

Thus the notation of reinforced concrete has become complicated, enigmatical, and irrational.

There ought to be no difficulty in arriving at a standard system of notation capable of meeting all requirements and harmonious with the notation and employed more or less consistently by writers on construction.

The task of dealing with symbols for reinforced concrete beam equations would be far more easy than it actually is were it not for the fact that some letters of the Roman and Greek alphabets must be reserved for column and other formulæ if confusion is to be avoided.

In succeeding sections the difficulties which have grown up with the new branch of construction are illustrated by categorical examples, and a series of standard symbols is proposed suitable for all beam formulæ in general use, and with suitable suffixes for other formulæ that are likely to be wanted for special purposes.

SANITARY STATE OF WHITBY.

REPRESENTATIONS having been made to the Local Government Board as to the insanitary state of the houses in certain of the older parts of Whitby Dr. Farrar was commissioned to make an inspection of the district. His Report states that to explain the present industrial position of Whitby, which has an important bearing on the sanitary circumstances of the town, it is necessary to give a short sketch of the history of the town. The year 1753 was the beginning of an era of great prosperity for Whitby, for in this year ships first sailed to the Greenland seas for the whale-fishing, in which trade from first to last fifty-three fine vessels were employed.

To this period belong several fine old houses on the West Cliff, while the close aggregation of the huddled and ill-contrived tenements in Baxtergate and the Crag on the East Cliff is also due to the rapid growth of the town.

The whale fishery gave an impetus to wooden shipbuilding, followed in its turn by iron shipbuilding, which last was carried on till about six years ago, when, owing to the condition of the harbour, joined to the inadequacy of railway facilities, the industry was abandoned.

The decline of the whale fishery was followed by a second period of marked prosperity due to the development of the jet trade, jet occurring in thin strata in the upper lias on the coast of Whitby, which enjoyed a practical monopoly of the trade; but this trade also, for various reasons, declined. Till a recent period line-fishing and herring-fishing have been important industries in Whitby; a few years ago there would be sometimes as many as 500 boats at anchor in Whitby Harbour on Sundays in the herring season. The provisioning of these boats was a source of great profit to local shopkeepers. The silting-up of the harbour has rendered the passage of the harbour bar so unsafe in rough weather that the port of Whitby has practically been abandoned by all but a few local fishing cobles.

Thus one by one the staple industries on which Whitby flourished in times past have decayed or died.

The inhabitants depend chiefly on the summer visitors for their livelihood.

The total loss of the shipbuilding industry and the decline in the fishing industry have led to the formulating of a scheme of harbour extension by which it is hoped these industries may be revived and prosperity restored to the town. The scheme, which has been devised by Messrs Sandeman & Son, of Newcastle-on-Tyne, is, briefly, as follows:—To lengthen the present piers by two new piers, each projecting about 500 ft. beyond the present piers and separated from them by a "wave-trap." It would then, by dredging, be possible to secure and to maintain a channel 70 ft. wide and a minimum depth of 7 ft. at low water and of 22 ft. at high water. If this scheme were carried out herring boats could enter the harbour at any state of the tide, and steam trawlers at high water. The plans permit of further extension of the harbour at a later date if desired; by a further extension of the piers of 400 ft. a depth of 14 ft. at low water could be obtained. Sanction for the scheme was sought at a Board of Trade inquiry held in Whitby on December 5, 1906. The cost of the work is estimated at 75,000*l*., of which it is hoped that 25,000*l*. will be covered by a grant from the Board of Trade, when their sanction to the scheme has been obtained; the remainder of the money will require to be raised by a loan for eighty years.

The question of harbour extension has an important bearing on that of sewage disposal. The sewage of the town is discharged without treatment into the harbour at six separate outfalls. This method of sewage disposal involves serious nuisance, and in all probability militates against the popularity of the town as a resort for summer visitors. The worst nuisance, one which is immediately obvious at low tide to all visitors to Whitby, arises from the considerable volume of sewage poured into the harbour above low-water level by the Bagdale Beck sewer, which discharges right under the entrance to the railway station. Apart from all questions of outfall treatment the sewage entering the beck ought to be diverted. The Report suggests that it would probably be found practicable to effect this by laying down a 9-in. pipe sewer along the beck to take the sewage of the houses which now drain into it, and connecting such intercepting sewer with the main sewer at the bottom of Brunswick-street. The Waterstead-lane sewer, sewering some thirty houses in Park-terrace and Esk-terrace, could be connected with the main sewer, though the latter would not be deep enough to drain one or two houses situate near the present outfall. For the final disposal of the sewage various alternative schemes have been suggested, and are described in the Report.

Messrs. Sandeman, the engineers of the harbour extension scheme, submit that the new harbour scheme will itself provide the first feature of improvement, viz.:—Instead of the present shallow and narrow low-water channel from Whitby Bridge to the pier head, there will be provided a channel having a depth of 7 ft. below low water of spring tides, and a minimum breadth of 115 ft. at low water. The deeper channel will give a greater velocity to the ebb current, and thereby cause a greater scour of the harbour bottom. They propose that instead of the present sewer outfalls, which discharge at different levels through the quay walls above low-water level, the sewers should be continued down by means of cast-iron pipes discharging below low-water level.

In regard to house drainage, in the older courts, built up the side of the cliff on the east and west sides, household slop-sewage is carried away by open channels, which descend the cliff by the side of the steps and discharge into trapped gullies at the foot of the cliff. This method of drainage is primitive, but the fall is so strong that it appears to be quite effective.

The housing conditions in Whitby are the outcome, partly of the industrial history of the town, and partly of its physical configuration. On the East Cliff good and substantial houses, dating back, many of them, to the XVIIth century, were erected along Henrietta and Church streets, but when the population expanded somewhat rapidly, owing to the growth of the whale-fishing and shipbuilding industries, accommodation was found by "running up" jerry-built houses between Church-street and the top of the cliff. There are hardly any workmen's cottages of a satisfactory class in Whitby, and very little house property intermediate in character between that in the slums and the villa residences which are let in lodgings during the summer season. A number of squalid courts rise in a series of terraces to the top of the cliff. The cliff side has a gradient of 1 in 2½; the steps connecting successive terraces are of stone, irregular, much worn, and, in many instances, without a handrail, and very dangerous. The houses in these courts are greatly crowded upon area, a condition of affairs which has been aggravated by the erection of jet factories on every available space. The upper tenements are, in many cases, approached by wooden staircases and galleries, which are often so rotten as to be positively unsafe.

There are many houses, particularly on the East Cliff, which, owing to the ruinous condition of floors, walls, or stairs, are unfit for habitation. The squalor of the slums is greatly enhanced by the number of derelict blocks which exist side by side with tenements still in occupation. To render the older courts, particularly those on the East Cliff, properly habitable it would be necessary to treat the derelict tenement blocks, jet factories, and warehouses as obstructive buildings, and demolish them with a view to letting in light and air to the remaining blocks. This could be done without seriously impairing the effect of the huddle of red roofs which is one of the æsthetic charms of Old Whitby. The pecuniary value of the derelict blocks must be small. The space thus gained could be utilised for laying out gardens, the privies could be moved from their undue proximity to the house doors; the yards should be, in many instances, repaved, and the ruinous and dangerous steps connecting the terraces repaired. The remaining blocks, being put into tenantable repair, would then, to a great extent, lost their "slum" character.

Obituary.

MR. HAYES.—The death, on December 21, is announced of Mr. Edward George Hayes, aged 64 years, of Norfolk-road, St. John's Wood, N.W., and late of Paternoster House, E.C. Mr. Hayes was elected an Associate of the Royal Institute of British Architects in 1876. With Mr. S. C. Searle he was architect for the reconstruction of the late Mr. Charles Spurgeon's Metropolitan Tabernacle, Newington Butts, S.E., after the fire on April 20, 1898, which left only the hexastyle portico and the four walls of the edifice erected in 1860-1 after W. W. Pocock's competitive designs, illustrated in the *Builder* of March 19-26, 1859. Messrs. Searle & Hayes restored the lower hall, 142 ft. by 80 ft., for 2,000 seats, and then proceeded with the superstructure, reducing the capacity of the auditorium by about 1,000 to rather more than 2,700 seats, and using the space of one bay, 13 ft. 6 in., for the new vestries and baptising-rooms. Mr. W. Higgs, of Higgs & Hill, whose revised contract for the superstructure amounted to 32,550*l*., superintended the work, in which a large amount of concrete, iron, and steel was used. Messrs. Searle & Hayes were the architects of the Dudfield Memorial Hall, in Lansdowne-place, Southwark, 1897; the new wing of the Royal Hospital for Incurables at West Hill, Putney, 1879; and of the British Xylonite Company's factory, Walthamstow.

MR. F. J. BREWER.—The death, on December 25, is announced of Mr. Frank John Brewer, of Suffield House, Richmond, Surrey, in his 58th year. Mr. Brewer was elected a Fellow of the Royal Institute of British Architects in 1891, and was a Fellow of the Surveyors' Institution. He prepared the plans and designs for the "Princess May's Wards" added to the Royal Hospital at Richmond in 1893-4; improvements for the widening of High-street, Putney, by setting back and rebuilding part of the west side, 1900; Avenue Baptist Church, Twickenham, for 400 sittings, and with a tower 50 ft. high; the parish room at Cowley, with a main hall, etc.; and in Richmond, the wing in Shaftesbury-road, of the Royal Hospital, for the out-patients' and ophthalmic departments, with a spacious waiting-hall having an open-timbered roof, dispensary, X-ray, and other rooms, together with alterations of the older buildings, 1903-4; the new Castle Assembly-rooms; the New Theatre Royal, opened in April, 1890; the Masonic hall and clubhouse, 1899; and, we understand, the theatre and opera house on Little Green.

MR. F. STACPOOLE, A.R.A.—Mr. Frederic Stacpoole died, age 94 years, on December 19, at his residence in Putney. In 1841-3 he won the Royal Academy silver medals for the best drawings from the antique, and the best copy in the painting school. Having at the outset devoted himself to portraiture, he turned to engraving in mezzotint, and in the combined engraved and etched method: amongst his best-known works are those executed after paintings by Lady Butler, Mr. Holman Hunt, Landseer, and Faed; he engraved the "Roll Call," the "Shadow of the Cross," and Mr. Rivière's "Circe." Mr. Stacpoole was made an Associate engraver of the Royal Academy in April, 1880.

MR. MURDOCK.—Mr. John Murdock, architect, Ayr, died at his residence at an advanced age on the 30th ult. Mr. Murdock had spent nearly all his professional life in Ayr, and many buildings, public and private, throughout the county and beyond it were built to his designs; among other structures of which he was the designer being Ayr County Hospital and St. Leonard's Parish Church, Ayr.

MR. DAVID MORGAN.—We have to record the death of Mr. D. Morgan, of the firm of Messrs. D. Morgan & Son, builders' merchants, Cardiff, which took place at Cardiff recently, and on the 24th ult. the funeral, in Cardiff Cemetery, was attended by a great number of builders and other friends of the deceased, followed by a large number of employees from the three yards belonging to the firm. For several years past Mr. Morgan had been an invalid, and the business had been entirely controlled by his eldest son and partner, Mr. Arthur Morgan.

MR. BLEAZARD.—Mr. John Bleazard, of Clitheroe, died on the 31st ult. at his residence, Railway View, Clitheroe. Mr. Bleazard, who was about 50 years of age, was in an extensive way of business as a contractor.

General Building News.

ST. ALBANS CATHEDRAL.—A fund is opened for the erection, at an estimated cost of 4,500*l.*, of a stone-vaulted roof, in lieu of the existing plain timber roof, over the north aisle. The new groined roof, which is to be like that over the south aisle, will be constructed under the directions and superintendence of Mr. J. Oldrid Scott.

ROMAN CATHOLIC CHURCH, AINSDALE, LIVERPOOL.—The new church of the Sacred Heart at Ainsdale was recently opened. The church has been built to accommodate from 350 to 400 persons, at a total cost of about 2,300*l.* The architects were Messrs. Black & Milligan and T. E. Davies, of Liverpool, the contractor being Mr. R. Lupton, of Waterloo.

PRIMITIVE METHODIST CHAPEL, NEW BASFORD.—A new Methodist chapel is in course of erection in New Basford. The architect of the work is Mr. H. Harper, the builder being Mr. J. Lewin. The chapel is to be built of red brick, with stone facings.

CONGREGATIONAL CHURCH, WINLATON.—The foundation-stones of a new Congregational church to be erected at Winlaton were laid recently. The building, which has been designed by Messrs. Liddle & Brown, architects, Newcastle, will provide accommodation for about 450 people. Messrs. E. R. Davidson, of Blaydon, are the principal contractors.

CHURCH ENLARGEMENT, WARMLEY.—Plans have been designed, and a faculty is to be applied for, with a view to the extension of St. Barnabas' Church, Warmley. The scheme comprises the removal of the present vestry, adjoining the north aisle, and extending this aisle nearly to the end of the chancel. The extra space required will provide an organ-chamber and a vestry capable of accommodating fifty persons, and the removal of the organ from the end of the south aisle to the new organ-chamber will allow of fifty additional sittings being acquired in the south aisle. Mr. H. C. M. Hirst, of Broad-street, is architect to the scheme.

CONGREGATIONAL CHURCH, SAINTWELL.—A new Congregational church has been erected at Saintwell. The building is of red-faced bricks, and was designed by Mr. S. Rooney, architect, the builder being Mr. J. Jenkins, Radyr.

ST. GEORGE'S CHURCH, SOUTHALL.—The foundation-stone has been laid of a new church at Southall, Middlesex, of which the entire cost, 7,000*l.*, has been defrayed by the Ecclesiastical Commissioners out of the proceeds of the sale of the church of St. George, in Botolph-lane, Billingsgate. The designs of Sir Arthur Blomfield & Sons embrace a vicarage, which will cost about 1,800*l.*; the contractors are Messrs. Longley, of Crawley. The old organ, rebuilt by Hill in 1862, and its case, carved by the Grinling Gibbons school, will be placed in the new church, and the endowment is provided for by the fund at the disposal of the Commissioners. There will be 750 sittings.

CHURCH ENLARGEMENT, COLCHESTER.—The reconstruction and enlargement of the chancel, St. Giles's Church, has been completed. The work has been designed by Sir A. Blomfield & Sons, and carried out by Messrs. Dorey & Sons, at a cost, approximately, of 2,600*l.*

COUNCIL SCHOOLS, COALVILLE.—New Council schools are being built at Coalville on a site on the east side of Bridge-road. They will provide accommodation for 600 scholars, in twelve classrooms, planned on the combined system of central hall and corridors. The work is being carried out by the executors of the late Mr. Walter Moss, from the designs and under the superintendence of Messrs. McCarthy & Co., architects, Coalville. The cost of the schools will be 9,125*l.*

PROPOSED NEW SCHOOL, STEVENAGE.—The Hertfordshire Education Committee have instructed the County Surveyor to prepare plans, in consultation with the Chief Education Officer, specifications, and estimates for the provision of a boys' school at Stevenage to accommodate 336 boys.

HIGHER-GRADE SCHOOL, INVERURIE.—The Inverurie School Board are now about to erect a new higher-grade school. Mr. George Gray, architect, Inverurie, has prepared the plans, and it is expected that the cost of the work will be a little under 5,000*l.*

SCHOOL OF COMMERCE, CARDIFF.—The new School of Commerce in Grey Friars-road, off Park-place, Cardiff, has just been opened. The building, which has been erected from plans prepared by Mr. Ivor Jones, architect, is three stories high. On the ground floor there is a hall and reception-hall, and on the next floor there are a number of classrooms for typewriting and shorthand speedwork, and there is a study-room. The third floor is also divided into small classrooms. Each room is ventilated by patent ventilators, and heated by gas radiators. The walls are of patent brick, sound resisting, and windows are let into the walls to enable the teachers to have supervision of the two rooms at the same time. The building has separate entrances at opposite ends for the young men and lady students. The builder was Mr. Paltridge, of Cardiff.

ROMAN CATHOLIC SCHOOL, CARLISLE.—The foundation-stone has just been laid of the new St. Patrick's Boys' School in Albert-street. The school will be a two-story building, and will have three classrooms on each floor. The number of boys for which accommodation will be provided is 272. The building was designed by Mr. Walker, of Newcastle, and Mr. Foxall is the resident architect. The contractors are:—Messrs. J. & R. Bell, builders; Mr. George Black, joiner; Mr. Hewitson, slater; Messrs. Sharp Brothers, plumbers; Messrs. Ormerod & Sons, plasterers; and Mr. Kerr, painter. The cost is estimated at about 2,000*l.*

SOUTH-NORWOOD POLYTECHNIC.—As the present temporary provision for girls in the Polytechnic does not satisfy the requirements of the Board of Education, the Borough Council have resolved to erect a school for 350 girls upon a site of 7 acres at Selhurst, belonging to the governing body of the Whitgift Foundation, Croydon, who are willing to sell the land for that purpose at a price of 4,956*l.*

METHODIST CHURCH HALL, FREEMANTLE, SOUTHAMPTON.—The Methodists in the Freemantle district have erected a new church hall on a site in Howard's-road. The building is about 100 ft. in length, and has seating accommodation for about 500 persons. In addition there is a church parlour and two vestries. The electric light has been installed throughout by Messrs. Wells & Co., while the heating arrangements were carried out by Mr. A. Pechell. The architect was Mr. E. T. Smith, and the building contract was secured by Mr. J. Nichol.

NEW PAVILION, RHYL.—At a meeting of the Rhyl Urban District Council, held recently, the designs of Messrs. Maxwell & Tuke and F. Bennett Smith, of Manchester, were selected, after a competition limited to six architects, for the erection of a pavilion to accommodate 2,000 people, proposed to be erected by the Council on the foreshore at Rhyl, and which it is hoped will be ready for use early next season. It is intended to construct the building of brickwork faced with red and buff stock bricks, with terra-cotta dressings, with verandahs and balconies on all sides. The treatment of the exterior has been very carefully considered so as to give a picturesque appearance when viewed from any point of the compass. There will be a turret at each end of the four angles, with a large octagonal dome in the centre. The platform will be sufficiently spacious to accommodate the largest Welsh choir. The Council intend to lay out the surrounding grounds as ornamental gardens and terraces.

POST-OFFICE, BOSTON.—The new post-office, which has been erected in Wide Bargate, Boston, was recently opened by Mr. Sydney Buxton, the Postmaster-General. The new building has been designed by Mr. J. Rutherford, of His Majesty's Office of Works, and has cost 9,000*l.*, the contractors for its erection and furnishing being Messrs. H. W. Parker & Son, of Boston. It consists of two floors and an attic story, laid out in store-rooms.

PARISH HALL, DINAS POWIS.—A parish hall has been erected at Dinas Powis from the designs of Messrs. Teather & Wilson, architects, at a cost of 1,470*l.* In addition to the assembly-hall, there are a council meeting-room, rates office, kitchen, two dressing-rooms, two cloak-rooms, and a platform. The contractor for the building was Mr. W. T. Morgan, of Cardiff.

MASONIC TEMPLE, OXFORD.—The dedication recently took place of a new masonic temple, situate in the High-street, Oxford. The temple will accommodate 250 persons, and adjoining there is a banqueting-room, capable of seating 250. There are also a couple of supper-rooms. The building has been erected from plans designed by Mr. G. Gardiner, Provincial Grand Superintendent of Works, at a cost of nearly 7,000*l.*

SANATORIUM NEAR ABERCHALDER, N.B.—The new sanatorium for consumptive patients from the county of Inverness is now in working order. The sanatorium has accommodation for twenty-two patients altogether, and comprises two separate buildings. The administrative block extends to 80 ft. in length, and it contains the doctor's room, nurses' rooms, kitchen, and servants' rooms. A dining-hall is situated conveniently to the kitchen and wards. The wards are erected on a terrace immediately in front of and below the administrative block, and the building extends to 170 ft. in length, and contains six double rooms, four single rooms, two nurses' rooms, a large day room, and in the wing annexed bathrooms, lavatories, etc. The plans were prepared by Mr. Dewar, Beauly.

REBUILDING IN OXFORD-STREET.—The premises at the corner, west, of Oxford-street (south side) and Great Chapel-street, have been recently pulled down, for rebuilding after designs by Messrs. Pilditch & Co.

MISSION-HALL, BELFAST.—The church belonging to the Methodist New Connexion in York-street, Belfast, has been purchased by the heads of the movement known as the North Belfast Mission, and reopened as a mission-hall. The purchase-money amounted to 2,000*l.*, and over 2,700*l.* has been expended on the restoration and improvement of the building. The entrance porch is now tiled with encaustic tiles, manufactured by the Porcelain Tile Company, Hanley. The old window frames and sashes have been removed, and the windows throughout glazed with lead lights by Messrs. Ward & Partners. The heating work has been carried out by Messrs. Musgrave & Co., and the church is lit by electric light according to the specification prepared by Mr. J. Woodside, A.M.Inst.C.E., and has been carried out by Messrs. Lowden & Co. The plumbing work has been performed by Mr. Wm. Curran. The contractor for the general building was Mr. Isaac Copeland, and the architect was Mr. W. D. R. Taggart.

VICARAGE, SARUM ST. MARK.—In the parish of Sarum St. Mark a new vicarage has been built. Mr. J. Arthur Reeve, of Westminster, prepared the plans, and the builders were Messrs. Wort & Way, Mr. W. Tryhorn being clerk of the works. The contract amounted to 2,600*l.*

PROPOSED PROMENADE, NEW BRIGHTON.—It is proposed to carry out a scheme at New Brighton for providing a promenade and generally improving the sea-front of that watering-place. Two and a half years ago the Wallasey Urban District Council decided upon a plan, but this has been much enlarged. In the place of the existing buildings, which include the Ham and Egg Parade, the Palace, etc., it is proposed to erect a Floral Pavilion with band-stand, café with roof-garden, and a concert or theatrical pavilion. These will be fronted with laid-out grounds and the promenade extension. The distance from the sea-wall to the building-line will be 42 yds. The promenade will have a 32-ft. roadway, a 44-ft. carriageway, and a 14-ft. flagged footway. The gross Parliamentary estimate is 152,000*l.* for improvements and extensions. Mr. Travers (Engineer to the District Council), in his report on the scheme, says that after allowing for site-value, buildings, and constructional work the estimated capital sum upon which loan charges will require to be paid for this section of the improvements is 35,700*l.*, and that these charges for a fifty years' period amount to 1,626*l.* per annum. The plans include baths.

DUNDEE BUILDING TRADE.—The Dundee City Engineer (Mr. James Thomson) states that the buildings erected or contracted for during the year represented a sum of 174,000*l.*, as against 168,000*l.* the previous year and 158,000*l.* in 1905. The work of restoring the buildings destroyed by the conflagration of July the year before and the destruction of part of Constable Works by fire, and the necessary reconstruction, gave a large amount of work, and in one direction or another fires have benefited the Dundee building trade to the extent of 125,000*l.* The erection of the new bond for James Watson & Co., Ltd., has been the outstanding event of the building trade during the year in Dundee, and among other large contracts carried through were the additions to Ancrum-road School, the erection of the new school in the east end, additions to Hillbank Works of Messrs. James Scott & Sons, Ltd., while the enlargement of Ashton Works (Mr. J. J. K. Caird) has just been concluded. The Town Council has also given its share of labour, notably in the branch libraries at the west and north ends. But for these contracts the building trade would have fared badly, for the erection of tenements, which was usually a good source of labour for the builder in Dundee, has in recent times shown a great falling-off, and cottages and villas are now coming into favour. Of the contracts to be carried out during this year, one of the largest will be connected with the Technical Institute, which will cost 25,000*l.* before it is opened. The physics laboratory at University College will be a 12,000*l.* or 13,000*l.* job. The new electrical generating-station will cost 25,000*l.* Several other public works are to be carried out, so that, apart from purely private enterprise, the buildings on hand or in prospect represent a sum of no less than 95,000*l.*

PROPOSED LUNATIC ASYLUM, SWANSEA.—The Swansea Asylums Committee have decided to engage Mr. G. T. Hine, architect, of Westminster, on the question of the erection of an asylum in Swansea or its immediate vicinity, but especially as to the Mayhill Farm site, and on the approximate cost of its erection, suitable equipment, etc.

NEW BUILDINGS IN ABERDEEN.—The Plans Committee of the Aberdeen Town Council has passed the plans of the following new buildings in Aberdeen:—Two houses in Willowbank-road, for Messrs. George Gorrod & Sons, per Mr. Duncan Hodge, architect; two dwelling-houses in Willowbank-road, for Mr. Thomas

Adam, per Messrs. W. Henderson & Son, architects; reconstruction of premises, No. 21, Spring-garden, for Mr. James Tytler, per Mr. William Smith, architect; dwelling-house on the south side of Polmuir-road, for the Caledonian Railway Company, per Messrs. Macqueen & Knox, advocates; plan of reconstruction of roofs, etc., at the headquarters of the 1st Aberdeenshire Royal Engineers, on the west side of Hardgate, for the Officer Commanding, per Messrs. Walker & Duncan, architects; plan of addition to engine-house on the west side of North Esplanade (West), for Mr. Charles Lyon, per Mr. Duncan Hodge, architect; plan of offices and stores on the south side of Albert-quay, for Mr. Thomas Davidson, per Mr. William Stewart, builder.

WANDSWORTH INFIRMARY.—The Wandsworth Board of Guardians have unanimously resolved to submit to the Local Government Board for approval the modified plans prepared by Mr. Gibson for the new infirmary. The cost of the proposed buildings is estimated at 93,000*l.*

NEW WORKS, METROPOLITAN WATER BOARD.—It is announced that the Board have under their consideration the construction of two storage reservoirs upon a site covering 980 acres in the Lee valley, where some trial borings have been made, and will proceed with one reservoir for 3,000 million gallons, having an embankment 4½ miles in length, together with a diversion, 3 miles long and 55 ft. wide, of the Lee. Another project relates to a new reservoir for the Lambeth Division at East Molesey, to contain 1,000 million gallons and to cost about 250,000*l.*

THE YEAR'S BUILDING AT LEITH.—There has been acute depression in the building trade in Leith during the past year, and this is likely to continue for some considerable time, as few plans are being presented to the Dean of Guild Court, and few buildings are likely to be put in hand before Whitsunday, it being now too late to have these ready for occupation at next term. It is evident that during the past few years the supply of new houses has largely exceeded the demand, hence the present slump. The high rate of interest and removals caused by emigration have also retarded building operations. During 1907 thirty-four warrants for buildings were granted by the Dean of Guild Court, in addition to eighty-three minor warrants for small alterations. The estimated value of these works is 58,674*l.* In 1906 the value of work for which warrants were granted was 179,700*l.* In 1905 the value was 92,000*l.*, in 1904 173,000*l.*, and in 1903 268,000*l.* It will thus be seen that 1907 compares very badly with previous years.—*Scotsman.*

BUILDING IN YORKSHIRE DURING THE PAST YEAR.—For at least four years the building trade has been going from bad to worse. The past year has put no check upon the downward tendency, and the resuscitation of certain industries has not been followed by a revival in building enterprise. New contracts of any importance have been scarce, for the disinclination to embark upon big undertakings has affected not only private traders but public authorities, consequently the bulk of the work has been of a more or less miscellaneous character. In Leeds very few works of any magnitude have been executed. According to the returns of the Corporation Plans Committee there have been completed during the eleven months ending December 10 sixteen villas, fifty-eight semi-detached villas, 321 through houses, 272 back-to-back houses, and 2,788 miscellaneous buildings. This, generally speaking, is somewhat less than for the corresponding period last year. At recent meetings of the Committee there have been signs of an improvement both in the number and the character of houses to be erected, and plans for industrial extensions also point to a rather better outlook.. Quietness has again characterised the Bradford building trade, but here, too, there are indications of an improving tone. The only building operations of any importance have been the Town Hall extension, and structural alterations to one or two large buildings in the city. Villa property is regarded as being somewhat overbuilt. In Halifax one or two extensions to industrial concerns have been carried out, but no new mills or workshops have been erected. A number of dwelling-houses have been put up, but there are still a good many houses to let. The principal contracts in the city of Hull are those for the erection of the General Post Office and Town Hall in Alfred Gelder-street, the Public Hall in Victoria-square, and a series of large shops in Jameson-street. Possibly the Corporation will this year begin the proposed new pier, and there will be more impressive evidence of progress in the building of the joint dock by the Hull and Barnsley and North-Eastern Companies. York, Harrogate, and other centres, too, have passed through another year of depression. A more cheerful story comes from the Huddersfield district, where, it is reported, the building trade has been prosperous during the year, and distinctly better than in the previous twelve months. Besides the continuance of important public contracts there have been erected new mills and additions to factories in the Colne Valley, and the putting-up of a large number of houses of all classes. Builders are likely to be busy during the coming year. —*Yorkshire Post.*

THE BUILDING TRADE IN ABERDEEN IN 1907.—Another year of depression has, according to the *Scotsman*, been experienced in the building trade in Aberdeen. From statistics furnished by the Burgh Surveyor's department, it is learned that there was, as compared with the previous year, a decrease of 14 per cent. in the extent of building operations within the city. The total number of plans passed for the construction of new buildings or alterations on existing premises was 295, as compared with 350 in the former year. The estimated total expenditure on building was 145,495*l.*, or less by 23,487*l.* than the amount spent in that direction in 1906—the lowest touched for upwards of a decade. There were ninety-six new dwelling-houses, ninety-nine cases in which alterations were made on dwelling-houses and business premises, and twenty-three new business premises. The construction of a gymnasium at Marischal College, the erection of a mission church in the Rosemount district for the Episcopalians, a new aisle for St. Margaret's Episcopal Church, and additional classrooms at Gordon's College were among the public buildings which furnished employment for the building trade. Public improvements effected in the course of the year were the widening of College-street, and the completion of the amenity scheme at the junction of the Marischal College and Gallowgate. The prospect for 1908 is bleak. The only works of note in view are the new slaughter-house in Hutcheon-street, with the Hide and Tallow Market that is to adjoin it; the new locomotive sheds for the Caledonian Railway Company at Ferryhill; and the new telephone exchange. With these exceptions, there are no large works in view; but as those contracts in the aggregate will come to about 47,000*l.*, they will help to tide over the winter.

BUILDING IN COVENTRY DURING THE PAST YEAR.—The Coventry City Engineer, Mr. J. E. Swindlehurst, has prepared a summary of the plans approved and buildings completed in the twelve months ending November 30. This shows that plans were approved for over 1,275 houses, seventy factories and workshops, forty-five alterations and additions, 105 miscellaneous, one public building, one chapel, four schools (including two additions), and thirty-five streets—total, 1,536. The buildings completed were 1,010 houses, forty-eight factories and workshops, twenty alterations and additions, thirty-two miscellaneous, two public buildings, one school, and eighteen streets—total. 1,131. During the year 531 plans were laid before the General Works Committee, of which number thirty-four were disapproved.

BUILDING TRADE IN NEWCASTLE IN 1907.—During the year just closed employment in the building trade in Newcastle has been quiet, the vast enterprises that characterised the industry for a few recent years having apparently met the most pressing needs. In the heart of the city the work of transformation still proceeds, though not on the extensive scale that prevailed when Collingwood Buildings or, still more recently, Milburn House were outstanding features of the reconstruction of Newcastle in its business thoroughfares Most notable of the contracts in hand now is in progress at the corner of Cloth Market and Mosley-street, whilst in Mosley-street, on the site of the old Café and extending to Grey-street, a big task is being carried forward, and Pilgrim-street, most improved of all the ancient thoroughfares, is the scene of some activity as well. As regards residential property, development is noted in the Wingrove and Fenham areas, but in Heaton the builder has not been so busy. High West Jesmond, extending from Jesmond Dene-road to Gosforth, is being built up with good-class dwelling-houses, whilst Osborne-road now stretches from Jesmond Station corner to Jesmond Dene-road. As far as can be learned, new work for this year is limited, and it would appear that 1908 will be uneventful in the Newcastle building trade.—*Newcastle Journal.*

BUILDING IN BIRMINGHAM AND DISTRICT DURING THE PAST YEAR.—According to the *Birmingham Post* building in Birmingham and the suburbs was normal during the past year. The state of the trade in the latter half of 1905 was by no means brisk, and during the first half of 1907 there did not appear to be any extraordinary or urgent demand for new buildings of any description. But in the autumn, in spite of the wet, work was continued with very fair progress. It cannot be said that the trade is at the height of its prosperity, but the number of plans approved by the local authorities recently for the erection of new buildings is, comparatively speaking, so large as to justify the belief that a revival of the builder's industry has commenced, and that from the point of view of the workmen the prospects for the opening of the new year, given favourable meteorological conditions, are satisfactory. To some extent this may be due to the success of the tramway system, by which working men are conveyed to and from the suburbs at cheap fares, with the result that dwelling-houses at reasonable rents are springing up in all the outlying districts of the city. In the central parts of Birmingham the builder has rarely been engaged in the erection of houses; his attention has been chiefly confined to reconstruction schemes, although a considerable number of new factories and warehouses have been built. For the eleven months ended November plans were passed by the City Surveyor for the erection of 1,116 dwelling-houses within the city, which is a little above the average; but the total number built within the year—between 700 and 800—is about an average. In the suburbs progress is more marked, proportionately, than it is in the city. The building has chiefly been the erection of dwelling-houses, while the construction of shops and business premises denotes the extension of the "towny" side of life.

EDINBURGH BUILDING TRADE IN 1907.—The year that has just closed must be classified, says the *Scotsman*, along with those immediately preceding it, among the "lean ears" of the Edinbugh building trade. Business, so far as building in the city is concerned, is reported to be, on the whole, in a more depressed state than it was in twelve months ago, and there is little promise of improvement. There is, it is true, such work as that connected with the new Art School, the Cattle Markets, and the Exhibition buildings, but so far as the trade generally is concerned builders state that the position at the present time does not compare favouarbly with the closing weeks of last year. A brighter state of affairs has existed in the country districts. During the year Edinburgh builders have secured a good deal of country work, which has enabled them to give employment to large numbers of tradesmen and labourers, many of whom have been sent from Edinburgh. The position, taken as a whole, is that recently contract business has been fairly good, but that in the city there is much depression in the speculative trade, particularly in the case of tenement and villa property—and in Edinburgh this speculative building of dwelling-houses is of greater importance, proportionately to the contract business, than is the case in some of the other large centres of population. As a consequence of the depression in the city there is some unemployment among masons, bricklayers, joiners, and other tradesmen. The causes of the depression in the speculative building of Edinburgh are concerned with, among other factors, the rate of interest, emigration, recent activity on the part of builders of certain classes of property, and with a system which is more favourable to the importing of manufactured articles than to the building of factories for making these articles at home. There is, however, one outstanding reason which is plainly proclaimed by empty dwelling-houses and shops in all parts of the city, and the statement of which can be made independently of secondary questions of economics. The city in the meantime is overbuilt so far as speculative building is concerned. There are more than 4,000 vacant houses, offices, and shops. The dull trade during the year has not resulted in any lowering of the rate of the tradesmen's wages. The returns of the Dean of Guild Court show that during the year 900 warrants were granted—332 full petitions, and 568 minor warrants. The full warrants were for forty-six tenements, thirty-three villas, 191 self-contained houses, 111 public and other buildings, and 718 alterations. In the previous year the figures were:—Sixty-five tenements, sixty villas, 339 self-contained houses, 114 public and other buildings, and 548 alterations. More than one-half of the houses in the tenements were houses of two apartments. Altogether there were in the tenements 567 houses. The approximate value of the whole work for which plans were passed was 646,818*l.*—a decrease of 88,472*l.* compared with the figures for 1906. In connexion with these statistics, it has to be kept in view that a considerable proportion of the houses for which plans were passed by the Dean of Guild Court this year are not yet in course of erection, and that much of the work completed during the year was from plans that had been sanctioned in 1906.

Stained Glass & Decoration.

WESTMINSTER CATHEDRAL.—In preparation for the Eucharistic Congress, to be held in London in the autumn, the decoration of the Lady Chapel with marbles will be speedily proceeded with, and after the Congress the mosaics will be fixed in the Lady Chapel and in the Chapel of the Blessed Sacrament, for the decoration of which the cost, 18,000*l.*, is met by a legacy of the late Baroness Weld. The work will be carried out by Mr. John Marshall, Architect to the Cathedral, who designed the great candlesticks which have just been made for the high altar.

ST. GEORGE'S CHURCH, WOOLHOPE.—A stained-glass window has just been placed at the east end of the south aisle of St. George's Church, Woolhope, Herefordshire, the subject being that of St. George the patron saint of the church; the text selected is "The way of the Lord is strength to the upright." The window was designed and executed by Mr. H. G. Murray, of London.

Sanitary and Engineering News.

DRAINAGE SCHEME, TRURO.—An inquiry was recently held by Major C. E. Norton, Local Government Inspector, into an application by Truro Rural District Council to borrow 900*l.* for purposes of sewerage and sewage disposal at Grampound-road, in the parishes of Ladock and Probus. Mr. R. Hansford Worth, of Plymouth, is the engineer for the work, and was among those who gave evidence.

COAST PROTECTION WORKS, ETC., SOUTHWOLD.—At a recent meeting of the Southwold Town Council a special report of the Sea Defence Committee was read, a scheme by Mr. J. Russell, their Consulting Engineer, being submitted which will cost some 6,000*l.* The Council also considered a proposal by the traders' union to find the money for erecting sea defences in front of Beach-house if their plans were approved. The harbour works, according to the original scheme, are now completed, and the engineer, Mr. Carey, has given a certificate for 60,803l., which was signed.

SEWERAGE SCHEME, MORETONHAMPSTEAD.—Major C. E. Norton, R.E., Local Government Board Inspector, recently conducted an inquiry at Moretonhampstead into the application of the Newton Abbot Rural District Council for sanction to borrow the further sum of 900*l.* for sewerage and sewage disposal for this parish. Mr. Horner (Clerk to the Rural District Council) said that Mr. G. D. Bellamy was the original engineer of the scheme, but, owing to advanced age, felt it necessary to drop out from all further professional participation in the scheme. His son, Mr. F, H. Bellamy, had since adopted his father's plans and prepared estimates of expenditure. Mr. F. H. Bellamy was called, and explained the plans in detail.

INTERCEPTING TRAPS.—The Architect's Department of the Local Government Board has sent a circular letter to the local governing authorities throughout the country stating that the Board has recently had occasion to order an investigation to be made of the use of modern intercepting traps, whether in combination or not with inspection-chambers, such as are required to be provided in many places by building by-laws, and, with a view to assisting the Board in the matter, the Architect's Department asks the local authorities' technical officers to submit any observations on the subject which their experience may suggest.

WHITBY HARBOUR SCHEME.—The Whitby Urban Council have been informed that the Board of Trade is prepared to give consent to the Whitby Harbour scheme, which will involve an outlay of 75,000*l.*, provided, however, the Council give the usual assurance. The Local Government Board were advised that the proposals might effect an improvement in the sewage disposal arrangements, but if, after the scheme has been carried out, the sewage is still unsatisfactory, the Council are to take steps at once to carry the sewage outside the harbour.

DUBLIN CORPORATION BILL.—The Dublin Corporation are promoting a Bill this session which contains a number of provisions relating to the sanitary condition of the city. Powers are taken to deal with dangerous buildings, and for the purpose of sect. 51 of the Public Health Act it is provided that the word "drain" shall be deemed to include any sewer or drain, whether constructed before or after the passing of the Act, with which two or more premises are connected. Power is also taken to make by-laws with regard to water-closets; and the Corporation may also make by-laws for securing proper sanitary conditions in schools and adequate cubic and superficial space, efficient water supply, and proper heating and ventilation. Sect. 81 provides that the Corporation may provide, maintain, furnish, and equip an art gallery, and may from time to time purchase pictures and other works of art.

MERTHYR TYDFIL IMPROVEMENTS.—Large improvement works, especially in regard to the supply of water, are proposed under the Bill being promoted by the above Corporation. It is intended to bring water from the River Taf Fechan, and the sum authorised to be borrowed for the works is 350,000*l.* Further sums of 24,000*l.* for street works, 10,000*l.* for a refuse destructor, and 3,000*l.* for a recreation ground are scheduled. Should the Council acquire any portion of the burial-ground of St. Tydfil's Church in the borough, they will be required to remove and re-erect all monuments and tombstones.

DOCKS AT HARWICH.—A Bill will come before Parliament next session for the incorporation of a company, with a capital of 1,500,000*l.*, to construct large docks at Harwich. Amongst those interested in the scheme are the Earl of Warwick and Sir Walter Gilbey.

LINCOLN WATER SUPPLY.—It is proposed by the Lincoln Corporation to expend 180,000*l.* on extending the water supply for the city, and Parliamentary sanction is to be asked for the expenditure.

LEEDS SEWAGE WORKS.—In consequence of the existing sewage works being insufficient for dealing with the sewage of the largely-increased population of Leeds, the Corporation is coming before Parliament with a request that it may be allowed to expend 1,277,000*l.* on the purchase of land and construction of works.

Foreign.

FRANCE.—The Municipal Council of Paris has decided on the enlargement of the Hôpital Trousseau, in the Faubourg Saint Antoine.——M. Bréasson has been elected President of the Société Nationale des Architectes de France, and M. Christie Vice-President.——M. Rey, architect, of Paris, has been elected a member of Council of "Habitations à Bon Marché," in place of the late M. Emile Trélat.——The jury in the competition at the Ecole des Beaux-Arts instituted by American architects has awarded the prize to M. Boussois, pupil of M. Pascal. The prize for 1906, which was reserved, has now been awarded to M. Lauzanne, pupil of M. Laloux.——The Municipality of Honfleur are about to erect a theatre and some new schools, at a cost of 891,000 francs.——A new Hôtel-de-Ville is to be built at Criquetot-L'Esneval.——The Municipality of Lille have voted 102,000 francs for the enlargement of the new hospital.——Parliament has voted half a million francs for the enlargement of the railway terminus at Epernay (Marne).—The Municipality of Neufchâteau (Vosges) have commissioned the engineers MM. Puech and Chabal to carry out the necessary works for the conveyance, filtration, and utilisation of the waters of the Mazarine, at a cost of 78,000 francs.——Works are shortly to be commenced for the improvement of the Orléans canal, at a cost of a million francs. It is also intended to prolong the Combleux canal to Orléans. The cost of the initial work for this operation is estimated at 3,905,000 francs.——The jury in the competition opened by the Municipality of Angoulême for the building of a new savings bank have awarded the first premium to M. Martin, architect to the Monuments Historiques for the Department of Charente.——The death is announced, at the age of seventy-three, of M. Bartomieux, architect, pupil of Gilbert and of Questel, and of the Ecole des Beaux-Arts. He had just received the decoration of the Legion of Honour. He has carried out many works in domestic architecture, and was for many years a member of the Société Centrale des Architectes, in which he was successively Treasurer, Archivist, Vice-President, and President of the Prizes Committee. His life was one of hard work and devotion to what he undertook.

GERMANY.—The new Central Theatre, Magdeburg, opened last summer, is more remarkable for its construction than for its artistic qualities. The chief difficulty in designing such buildings lies in the fact that the main walls have to be so largely perforated for purposes of heating and ventilation that they are unequal to bearing the load of the roof, galleries, etc. The new Magdeburg Theatre is a steel skeleton building, with the roof construction carried down to the basement, and the walls acting merely as screens to enclose so many spaces. It is designed to seat 1,800 spectators, and cost 1,500,000 marks. Dr. Josef Piskae, Chief Engineer to the Public Works Department, supplied the plans.——The new County Hall lately opened in Siegburg was built from the designs of Karl Moritz, of Cologne, who won the work in competition. The plans included alterations to the existing counsellor's dwelling-house, building a motor garage and workshop, and laying out the gardens in the public square adjoining. The buildings are cemented, with masonry plinth and pilasters, and the total work cost 200,000 marks.——In the competition for a polytechnic school for Grosslichterfelde a prize of 1,500 marks each was awarded to Rheinhold Nitzsche, of Berlin, and Professors Reinharat and Süssenguth, of Charlottenburg.——It is estimated that the proposed enlargement of the Kiel Canal will cost 223 million marks.——The new Glienicker Bridge at Potsdam was opened on the 16th inst. It replaces Schinkel's Bridge completed in 1835, which was a picturesque and beautiful structure, but quite inadequate for present-day requirements. The new iron bridge, designed in the Office of Public Works, has three spans instead of the original ten, is 22·5 metres wide instead of 6·50 metres, and stands so high that the ship traffic can pass below any of the three arches, instead of one span having to be laboriously opened to let vessels through.——During 1906 fifteen boilers exploded in Germany, irrespective of locomotive and steam boilers in the military and naval departments. Thirteen of the explosions were due to want of water, one to the rusting of a plate, and one to a cause unknown. Seven out of the thirteen cases were due to carelessness on the part of the stokers, but it is a matter of congratulation that the fault did not lie with the material, which was that specified in the German regulations for boiler building.——The new Cologne Chamber of Commerce has just been opened. It was built within three years, for a sum of 3 million francs, from the premiated designs of Professor Vetterlein, of Darmstadt.——On November 27 died the well-known architectural painter, Professor Paul Ritter, who, although a deaf mute, produced good work in engravings and in oil painting. The subjects he chose were chiefly confined to the architectural buildings of Nuremberg, the best known among his works being the entry of Gustavus Adolphus, with St. Sebaldus for background.——The addition to Berlin University has recently been opened. It consists of a building containing four lecture-halls to seat 1,000 students, and the attendant professors' rooms and dressing-rooms. The plans were made in the Office of Public Works under the direction of Dr. Thüry; the cost amounted to 314,000 marks, or 19·36 marks per cubic metre.——Last March a tumulus was opened up at Helmsdorf, in the Mansfeld district, which ranks among the most important in Germany, not from its size only, but from the contents of bronze weapons and gold objects found in the coffin. Dr. Grössler, who conducted the excavations, considers that it dates from the bronze age, and is therefore about 4,000 years old. The tumulus has a diameter of 34 metres, and is 7 metres in height. Not the least interesting fact we learn from it is the construction of the dwellings of the living at the remote period from which it dates. The floor is of stone slabs with the joints filled in with clay; this is covered with a layer of rushes, on which the coffin rests. The roof, which rests on the ground, is constructed of logs of oak abutting against each other at an acute angle, those standing immediately over the coffin being carefully strutted. The logs are coated with clay and covered with a layer of large stones, which are again covered with a thick layer of earth. The coffin is of oak.

AUSTRIA.—The Art Committee of the Society for Promoting German Art, Science, and Literature in Bohemia has, in conjunction with the delegates of the Prague Mozart Society, accepted the design of Professor Franz Metzner for a memorial to Mozart, and commissioned the artist to complete the work by next October. Permission has been obtained to erect the bronze memorial in the loggia of the German Theatre, the birthplace of "Don Juan," the unveiling to take place on October 29, the anniversary of the first performance of that opera.——The final arrangements concerning the building of a town museum in Vienna are being actively discussed in Parliament. It is believed that Herr Wagner's plan will be accepted with certain modifications. The height of the building being considered excessive, the architect will be requested to supply below ground the space which will be lost above by a reduction in height. The new museum will then have a basement and two stories. It is rumoured that the basement is to accommodate the Roman antiquities which are the property of the Municipality.——A Commission of Inquiry has lately sat on the stagnation of the building trade in Vienna: this is so serious that it may well be said to have reached a crisis. During the last three years building activity has been rapidly on the decrease, and this year has reached its lowest ebb. The increased cost of living and unfavourable state of the money market have to answer in great measure for

this stagnation. Another factor is the rise in wages. Wages account for about 50 per cent. in the cost of a building, and the rise in this item has certainly hastened the climax. In August, 1906, 15,000 workmen less were employed than in the previous year, and half a million kronen less were spent in wages. Another premium against building is offered by the inhabited house duty, which is the highest on the Continent. After years of ill-success on the part of all classes to obtain an abatement, the Finance Minister has at last expressed his intention of moderating the tax. The householders will further insist on retaining the twelve-year immunity from taxation for new buildings.——It is a matter of congratulation for the profession that, chiefly owing to the efforts put forth by the Institute of Austrian Engineers and Architects, the design for the new War Office is to be selected in competition. Only Austrian or Hungarian architects living in the Empire are eligible for the competition. Three premiums are being offered of 20,000, 15,000, and 10,000 marks.

SWITZERLAND.—The Pyremont Bridge over the Rhône, halfway between Bellegarde and Seyssel, has just been opened. It was designed by M. de Mollins, of the Maison Hemebique, and is remarkable for the small sum which it cost to build. It is of ferro-concrete in three spans, is 200 metres long, 31 metres above the water level, and has a roadway 5·24 metres wide, with crossings at intervals for vehicles. The exceptionally bad nature of the river bed added more than 25,000 francs to the original estimate, but even so the ultimate cost was only 212,000 francs, or 287 francs per square metre of roadway.

CAPETOWN NEW CATHEDRAL.—The Lord Mayor of London, Sir John Bell, presided recently at a meeting at the Mansion House of the Capetown New Cathedral Building Fund Committee. The Archbishop and the Building Committee of the Cathedral had received in October last year 25,000*l.* in donations and promises, which seemed to justify them in entering upon a contract to complete another portion of the work for that amount of money. Owing to the financial depression in South Africa, the contract had been reduced from 25,000*l.* to 20,000*l.*, and an appeal was now made to English churchmen to subscribe 5,000*l.* in order to cary out certain work which pressed for completion.

BRITISH HONDURAS.—During the year 1906 the exports of mahogany from British Honduras to the United Kingdom amounted to 6,321,269 ft., valued at 364,551 dollars. In the same period the exports of cedar from the colony to the United Kingdom amounted to 337,628 ft., valued at 17,617 dollars.

CANADA.—What will be one of the most important Government buildings in Canada is to be erected in Montreal. This will be the new Custom House, and it is stated that the cost of land and buildings will amount to nearly two million dollars.——In a recent speech at Brockville the Hon. G. P. Graham, Minister of Railways and Canals, said that the Quebec Bridge would unquestionably be rebuilt with all possible speed, and that the building of the Grand Trunk Pacific Railway would not be retarded because one bridge had fallen. He hoped to place before Parliament a proposal showing how the reconstruction ought to be commenced so as to ensure safety to the public and make the structure a lasting and permanent improvement.

RUSSIA.—The Russian Government has voted a sum of nearly four million roubles for the improvement of the waterways in Russia. Amongst other projects, the Oka, from Nischi-Novgorod to Koloma, which bears so much of the wheat and oil traffic, is to be made more easily navigable, as also the Dneister, from Bender to its mouth at the Black Sea. Inquiries are to be instituted respecting the through carriage of wheat from Siberia, and further investigations to be made concerning the through waterway between the Baltic and the Black Sea.——The eleventh International Navigation Congress will be held from May 31 to June 7, 1908, in St. Petersburg under the patronage of the Emperor. Information concerning the arrangements is to be obtained from the Secretary of the Navigation Congress, J. Ismailovsky Prosp, St. Petersburg. It is proposed to run a German steamer from Bremen, Hamburg, or Stettin which would carry foreign members as well as German, and on board which members could live during the Congress. Information concerning the steamer to be obtained from Dr. Sympher, 125, Leipziger-strasse, Berlin. W. 66.

BULGARIA.—According to a recent report by the British Vice-Consul at Sofia (Mr. G. O'B. Toulmin) great pains are being taken by the municipal authorities to improve and embellish their respective towns. The principal streets in the capital have been paved, public baths are being constructed at a cost of 60,000*l.*, and a State theatre has been inaugurated. The Municipality of Philippopolis has granted a concession to a Belgian syndicate for the exploitation of tramways and electric light. The power station will be at Stanimaka, twelve miles distant, which will also be connected with Philippopolis by tram. The necessary supply of water will be brought down from a ravine, at the foot of which, the former town is situated, by a conduit two and a half miles in length, and blasting operations are now being actively pushed forward. The town of Varna has recently concluded a loan of 320,000*l.* for waterworks, drainage, and street paving.

CONSERVATION OF ANCIENT MONUMENTS IN INDIA.—The following observations are made in his annual report by the Director of Archæology in India:—"In the Provincial Report for the Bengal Circle, Dr. Bloch remarks that one of the effects of the stimulus which Lord Curzon's administration gave to the conservation of ancient monuments is that every owner of a temple or mosque in Bengal believes that he has a claim on public funds for its restoration. A conception of this kind, arising out of a natural desire to get all that can be got from Government, is not perhaps surprising, and occasional examples of it are not wanting in other parts of India. But it is certainly the exception rather than the rule, and there can be no doubt that the general effect of the Ancient Monuments Act and of the solicitude shown by Government in this matter has been to encourage and stimulate the co-operation of private owners and trustees of monuments. Indeed, instances have occurred in which the interest taken locally in the work of conservation has been so keen that the villagers themselves have come forward spontaneously and offered to assist in the work without payment of any kind. Their action may, of course, be the result of religious zeal, but it shows, at any rate, that the idea of self-help is by no means so universally lacking as Dr. Bloch suggests."

Miscellaneous.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. Thomas McLean, the well-known dealer in works of art at the Gallery, No. 7, Haymarket, has retired, and the business will in future be carried on by Mr. Eugène Cremetti, under his own name.

DIARIES.—Messrs. Hudson & Kearns, Stamford-street, S.E., have sent us specimens of their Diaries for 1908. The diaries are specially prepared for the use of architects, surveyors, engineers, and builders, and they contain a great deal of useful information, in addition to the usual contents of a diary. Nos. 12 and 13, the "Architect's Diary," are excellent specimens, the only difference between them being that No. 13 has two pages provided for each day in the diary section proper, and No. 12 has one only. The Architect's Diary contains:—Cases decided in the superior Courts of Justice during the legal year from November, 1906, to August, 1907, of interest to the profession; professional practice and charges of architects; complete list of metropolitan surveyors and districts, with official and private addresses; list of architectural, surveying, and engineering institutions, etc., etc. Messrs. Hudson & Kearns' diaries, like their blotting-pads, are excellent publications in every way.—"The Sanitary Record Year Book and Diary for 1908" (Fetter-lane, E.C.) is the twenty-sixth annual issue of a useful diary, which is well arranged and printed. In addition to other information, it contains a *résumé* of the various Parliamentary measures relating to the public health enacted in 1907. Some useful memoranda for sanitary engineers and surveyors, compiled by Mr. G. J. G. Jensen, C.E., is included.

THE LONDON BUILDING ACT.—The case of the London County Council *v.* the Coal Co-operative Society, Ltd., raised some very complicated considerations in connexion with the London Building Act, 1894. The London and Chatham Railway Company had leased to the coal society a certain piece of land within the limits of deviation of the railway from year to year, but with an option to resume immediate possession should the land be required for the purposes of the railway. The coal society had erected a coal-store upon the land within the boundary-wall of the railway company, but the wall had been taken down when the building was erected, and the building was beyond the building line, as defined by the Superintendent Architect, in the Crystal Palace-parade, upon which it abutted. The magistrate had held that the land was used for railway purposes within the meaning of sect. 31 of the London Building Act, and he dismissed the summons. That section provides that "Nothing in this part of this Act shall affect the exercise of any powers conferred upon any railway company by any special Act of Parliament for railway purposes." There was a clause in the agreement between the railway company and the respondents, the coal society, by which the respondents bound themselves to receive a minimum of 2,000 tons of coal per annum over the line of the railway company under penalty. The Divisional Court consisted of three judges, whose opinions were divided. Mr. Justice Sutton held that the railway company had failed to show that they were exercising any special powers conferred upon them. Mr. Justice Channell expressed some doubt about this, but he held that the special Act of the railway company passed in 1862 in express terms prohibited the railway company from building on the margin of their land beyond the building line, as it preserved all the rights, powers, and privileges of the predecessors of the County Council. Mr. Justice Bray differed altogether. He considered that there was evidence that the land was used by the railway company for railway purposes, and that the provisions of the London Building Act overruled the restriction imposed by the special Act. In the result, by a majority who differed in their reasons, the appeal was allowed, the respondents being held to have infringed the provisions of the London Building Act.

A SUBSTITUTE FOR DISTEMPER.—A sample of a paint called "Mackein" has been sent to us by Mr. Mathias Lieck, of Highbury. The paint is a white powder, which when mixed into a pasta with hot water can be used for indoor work as a substitute for distemper; 10 lb. of the powder should be mixed with one gallon of hot water, and the mixture be allowed to stand until it is cold. Mackein has a chalk-white colour, but it may be mixed with 10 to 20 per cent. of colouring matter if desired. It is sold at 1½d. per pound, and 1 lb. will cover 6 to 8 sq. yds. One of the advantages of Mackein is that it has no odour in either the wet or dry condition.

STREET LIGHTING IN THE CITY.—The Public Health Department of the Corporation have initiated experiments with a view to effect a more efficient and economical lighting of the streets. The Charing Cross Company have installed in Cannon-street a system of centrally-hung flame-arc lamps, after the Gilbert and Oliver type, the overhead wires, in duplicate, being attached to the houses along both sides, with a distance of 28 ft. between the roadway and the arc. The City of London Company will fit specimens of the newest kind of arc lamps in Queen Victoria-street, and similar trials are now being made in Farringdon-street, Holborn-viaduct, and Holborn-circus. It is stated that the two electrical lighting companies are prepared to carry out their systems of supply upon the basis of a charge of 17*l.* 10s. per lamp per annum; the Corporation now pay 26*l.* per lamp per annum for the nearly 500 lamps in the City.

STREET WIDENING AND WHITGIFT'S HOSPITAL, CROYDON.—The widening of North End, along the east side, is being proceeded with, and upon the award of Mr. E. H. Bousfield as arbitrator a sum in compensation of 4,501*l.* has been adjudicated in respect of No. 38, for which the leaseholder preferred a claim of 8,340*l.* The course of the widening of the street is thus advancing southwards to the gates of the Whitgift Grammar School, and thence towards Whitgift's Hospital of the Holy Trinity by the corner of George-street. Apprehension is already felt that the demolition of that highly interesting group of buildings will, ere long, be again entertained by the local authorities. The almshouses were built in 1596-99 for about forty inmates by Archbishop Whitgift, and with the chapel and hall form a handsome example of the domestic architecture of the period.

NATIONAL PORTRAIT GALLERY.—Amongst the recent acquisitions made by the trustees are a portrait sketch, given by Miss Alice Balfour, of Turner, being an original pencil-drawing by Charles Martin drawn from the life at the (old) British Institution in Pall Mall, and a replica or copy of the portrait, at Eton, of Sir Henry Wotton, Provost of the College, the poet and diplomatist.

PROPOSED ROADS, LONDON AND ENVIRONS.—The Tottenham and Edmonton Gas Company have agreed to supply materials for the making by the Tottenham District Council of a roadway from South Tottenham across the marshes and the Lee Navigation and Lee river to Walthamstow, with a bridge across the main line of the Great Eastern Railway.—One of the most interesting Bills which will come before Parliament next session is the London and Windsor Motor Roads, Tramroads, and Tramways, by which a company with a capital of 1,215,000*l.* propose to construct a road for vehicles drawn by other than animal traction from Hammersmith-broadway to Windsor. It is suggested that a tramway should be constructed along the whole length of the road. The company ask for power to erect hotels, offices, workshops, etc., and to be allowed to trade in electrical energy or other means of producing power for propelling vehicles.

REINFORCED CONCRETE FOR CHINA.—The United States Consul at Isingtan, in a report to his Government which has just reached London, says he believes there is an excellent opportunity to introduce into China reinforced concrete buildings. These would withstand the excessive changes of weather and heavy rains better than the brick formations now in general use, and the steel construction would make for strength to withstand the heavy wind-storms prevalent throughout the empire.

CROYDON POLYTECHNIC VISIT.—On Saturday afternoon last, by permission of the architect, the students of the building construction classes from the Polytechnics at Croydon, South Norwood, and Thornton Heath were shown over the new building now in course of erection by Messrs. Holloway Brothers for the Postmaster-General, and which will be used for post-office business as an extension to the General Post-Office at St. Martin's-le-Grand. The new building stands on the site recently occupied by the Blue-Coat School, and adjoins St. Bartholomew's Hospital. To utilise this site to the greatest advantage the authorities decided to adopt the ferro-concrete system of construction known as the "Hennebique system." The clerk of works conducted the party over the works and clearly explained the many interesting points in the construction of the building, thus enabling all to understand the method adopted. These visits afford students an opportunity for acquiring an intimate practical knowledge of modern building work, and arrangements will be made for inspecting other buildings during the half session which commences on January 6, 1908.

REGENT-STREET POLYTECHNIC.—Sir Aston Webb, distributing on the 19th ult. the medals, prizes, and certificates to students of the architectural and engineering classes of the Regent-street Polytechnic, said that it had fallen to him recently to make a very careful examination of St. Paul's Cathedral, and there was nothing that struck him more in going over that wonderful building than the extraordinary foresight and precautions taken by Sir Christopher Wren to safeguard the structure. He had evidently planned and thought out every possible accident that might happen to the Cathedral, and when Sir Aston Webb and those who accompanied him found rents and cracks and thought that so-and-so should be done to prevent them from going farther, they found in nearly every instance that Wren had taken those precautions which seemed to them to be necessary. The only thing that Sir Christopher Wren had not thought of—and it was not his fault—was tubes and tube sewers. He hoped that nobody would ever think of them in connexion with the neighbourhood of St. Paul's.

MEMORIAL LYCHGATE, READING.—A lychgate has been erected at St. Michael's Church to the memory of Mr. Charles Collins. It is constructed of English oak framing, on a red brick base, and the roof is covered with red tiles. The memorial was designed by Messrs. Hoare & Wheeler, of Reading, and the work has been carried out by Messrs. Walden & Cox, of Henley-on-Thames, under the architects' direction.

TRAMWAYS AND RAILWAY COMPANIES' WIRES.—A curious point arose in the case *Re* an Arbitration between the Rhonda Tramway Company and the Taff Vale Railway Company. The tramway was being constructed, under a private Act which incorporated the Tramway Act, on the trolley system, and by the Board of Trade regulations the wire on which the trolley is worked had to be 21 ft. above the surface of the road, and where it crossed railway bridges have protecting wires 2 ft. above the power wire. The railway company's and other wires were carried over the bridges at a less height than 23 ft., and thus it was impossible to construct the tramways unless those wires could be removed. The Tramway Act, 1870, in sect. 30 provides that "For the purpose of making, forming, laying down, maintaining, repairing, or renewing any of their tramways the promoters may, where and as far as it is necessary or may appear expedient for the purpose of preventing frequent interruption of the traffic by repairs or works in connexion with the same, alter the position of any mains or pipes for the supply of gas and water, or any tube, wires, or apparatus for telegraphic or other purposes. . . ." The railway company contended that this section only applied to existing tramways and to wires laid in the road, and that it conferred no powers on the tramway company to enter upon the railway company's premises to effect the alterations. The Court of Appeal decided all these points in favour of the tramway company.

GLASGOW ARCHITECTURAL STUDENTS' ASSOCIATION.—The opening meeting of the Glasgow Architectural Students' Association was held in the Blythswood-chambers, Blythswood-square, on Friday evening, the 20th ult., Mr. C. H. Wessenberg, Vice-President, in the chair. Mr. D. Bennet Dobson, I.A., gave a lecture on "Is the English System of Domestic Architecture Better than that of the Scots?" In his remarks the lecturer maintained that the great drawback to the Scottish system was the excessive cost of land, a circumstance which inevitably ran up the total cost of a finished building. The lecture was followed by an interesting debate, in which several members argued that, apart from the ground values question, the Scottish system still possessed many advantages over the English. Mr. Dobson, in summing up, repeated his contention that the cost of land in Scotland lay at the root of the whole difficulty, and that until the difference in this respect was remedied the English system, in his opinion, would remain infinitely superior to the Scottish. On a vote being taken, however, it was found that the members almost unanimously upheld the Scottish system. A hearty vote of thanks was then accorded to the lecturer, and brought the evening to a close.

QUARRYING IN ABERDEENSHIRE.—The quarrying industry in Aberdeenshire for two or three years back has, states the *Aberdeen Free Press*, been in a very backward state, and several quarries have been shut up which in former days did a very large trade. The decline has been gradual during the past three or four years, and last year, and particularly in the past month or two, affairs were at a very low ebb, and there are no signs of improvement in the position of matters. If there is to be any change for the better this year it will not make itself manifest for a few months, at least until the spring, when outdoor work gets into full swing after the winter. Various causes are assigned for the backward state of trade at the quarries, such as the depression of the local building trade, foreign competition, and the lack of demand for setts. The local quarries depend very largely on the building trade, as they always turn out a large quantity of material which is not suitable for manufacture into setts or for monumental purposes, but is very useful building stone. The quarry owners contend that the effect of foreign competition on their business is very serious indeed. It is reported that there is an increased demand for Peterhead granite for polished fronts of buildings. It seems that the various foreign granites which for some time seemed likely to cut out the native product altogether have gone out of favour. During the past year there was exported from Aberdeen:—Kerb, paving, and building stones, 4,715 tons, compared with 4,367 tons in 1906; rubble chips, 4,264 tons, compared with 4,888 tons; road metal, 4,121 tons, as against 2,193 tons; and granite waste slabs, 2,542 tons, compared with 2,154 tons in 1906. The sett-making industry at the various quarries in Aberdeenshire has also been in a very backward condition for some time, and there has been little demand for setts. During the latter end of the year quite a number of sett-makers were discharged from several of the quarries. During the year ending September 30 the exports of causeway stones from Aberdeen Harbour amounted to 25,698 tons, compared with 44,128 tons the previous year.

MANCHESTER IMPROVEMENTS.—By the Bill which the Manchester Corporation is proposing in the next Parliamentary session it is proposed to expend 160,000*l.* on waterworks, 90,000*l.* upon the construction of street works, and 35,000*l.* in connexion with the construction of sewage works in Stretford. The street works contemplated include the widening of Moston-lane, a new street between Lamb-lane and Oldham-road, the widening of Davenport-avenue, the improvement of Wilmslow-road, widening and continuation of Redfern-street, and a new street in continuation of Bridge-street. Provision is made for the removal of human remains from St. Augustine's burial-ground, and also for the removal and re-erection of all monuments and tombstones.

POLICE BUILDINGS.—Under the Bill of the Stockport Corporation deposited in the Private Bill Office authority is taken to borrow 30,000*l.* for the erection and equipment of police buildings and the purchase of land therefor.

PROPOSED NEW DOCK IN THE THAMES.—From the Lower Thames (Grays) Dock Bill, which has been deposited in the private Bill office of the House of Commons, it appears that the proposed capital of the new company will be 3,750,000*l.*, and the proposal is to build a wet dock 920 acres in extent at Grays, in Essex, with a railway about 3½ miles long joining up to the London, Tilbury, and Southend Railway.

GARDEN CITY SCHEME, BRADFORD.—For some weeks past, says the *Yorkshire Post*, a Buildings Sub-Committee of the Bradford Corporation have been holding lengthy meetings to consider proposed new building regulations for the city. The present regulations do not permit the erection of property on the plan of a garden city, and it is to make such a scheme feasible that amended by-laws are proposed. Recently the Street Improvement Committee, after a protracted meeting, expressed approval of the proposed new regulations, and the sanction of the City Council is to be asked so that expression may be given to them. The proposals, which are of an involved and technical nature, aim at no drastic changes. It is proposed to amend the regulations in regard to sanitary requirements in new buildings, and the Committee also propose to adopt a scheme which, in its present form, has been advanced by Mr. W. H. Dawson, Deputy-Surveyor, for the laying-out of an area of land on the garden-city principle, the chief features of which will be the doing away with front streets and the increasing of garden sites.

IMPERIAL THEATRE, WESTMINSTER.—On February 5 will be offered for sale at the Mart the freehold estate in Broadway, extending over 23,745 sq. ft., with frontages of 330 ft., upon rather more than one-half of which stands the Imperial Theatre. The present house, of which Mrs. Langtry took the lease a few years ago, contains only the outer walls, and the fabric of the dressing-rooms at the back of the stage, of the former edifice which was added to the buildings of the Royal Aquarium, designed by Mr. A. Bedborough, and opened on January 22, 1876; see the illustrations in the *Builder* of May 1, 1875, and January 22, 1876. In January-April, 1901, Mr. Frank T. Verity effected an entire reconstruction of the theatre for Mrs. Langtry as lessee, who expended nearly 35,000*l.* upon the works. Mr. Verity built a new roof, a new stage, 40 ft. deep by 65 ft. wide, foyers, staircases, and an auditorium, 50 ft. wide, with a proscenium 30 ft. by 25 ft.; he designed all the curtains, hangings, draperies, and embroideries which were worked in the Royal School of Art Needlework under his superintendence, and adopted for the interior decoration a treatment, after the First Empire style, of a purely architectural character, in which marble and burnished metal prevail. The general contractors were Messrs. John Allen & Sons, Ltd., of Kilburn; the marble work is by Messrs. Farmer & Brindley, and the metal enrichments and modelled plaster work are by Messrs. G. Jackson & Sons. Phelps, as "Wolsey," took his farewell of the stage at the theatre on March 1, 1878.

DONCASTER IMPROVEMENTS.—By the Bill which the Corporation of Doncaster are promoting in the forthcoming session it is proposed to take land and construct works to do away with the level crossing on the main line of the Great Northern Railway situate in the centre of Doncaster. For the purchase of land and the construction of works the Corporation propose to borrow 150,000*l.*

LEICESTER BUILDING REGULATIONS.—The Leicester Corporation are seeking Parliamentary powers to enable them to provide that every new building erected for a dwelling-house shall have at the rear or side and adjoining thereto an open space to the extent at least of 250 sq. ft. They also ask for power to prevent the formation of culs-de-sac, and to require means of escape from buildings exceeding 35 ft. in height used as taverns, hospitals, boarding-houses, common lodging-houses, or schools.

GLASGOW BUILDING REGULATIONS.—In consequence of recent decisions of the Courts of Law on the construction of the provisions of the Glasgow Building Regulations Act, 1900, relating to the register of public streets, the Corporation are promoting a short Bill to amend the Act by deleting the words referring to the distance between the centre of the street and the building line, and giving the Sheriff power to deal with appeals without regard to the words in the previous Act.

PROPOSED IMPROVEMENTS AT MARGATE.—Under the Bill being promoted this year, the Margate Corporation are taking power to erect concert-halls, pavilions, winter gardens, reading-rooms, and other buildings on the seashore or cliffs. Clause 15 provides for the Corporation having power to define the width of new streets.

MUSSELBURGH OCTOGENARIAN ARCHITECT'S RETIREMENT.—The retirement from business and from Musselburgh is announced of Mr. John Gavine, architect. Mr. Gavine was born in Crail eighty-seven years ago, and from 1853 to 1883 was in business as architect and builder in Leith. In 1883 Mr. Gavine went to Musselburgh, and has been in constant practice as an architect there since.

MEMORIAL, WINGATE.—A memorial has been erected at Wingate in memory of the twenty-six men who lost their lives in the colliery explosion last year. The monument is made entirely of Yorkshire stone, and rises from three steps 16 ft. square to a height of 20 ft., and is surrounded by a wrought-iron railing. The central die stone has four sunken panels, three of which contain the names of the men who lost their lives, and an inscription on the ornamental front panel. Mr. Douglas Crawford, architect, of Bishop Auckland, designed the memorial, and its execution was entrusted to Messrs. Borrowdale Brothers, sculptors, of Sunderland and Durham.

ARTISTIC CALENDARS.—The ordinary calendars which are sent round at this time of year as

advertisements we cannot undertake to notice—in regard to design and colour they are mostly as bad as they can be; but we must thank Mr. W. Gilbert and Mr. McCandlish, of the Bromsgrove Guild, for a really artistic little calendar bearing, above the list of days of the month, a circular bronze medallion with a bas-relief of the Holy Family, a very good little piece of work both in design and modelling, which it is a pleasure to have on one's table. We must acknowledge also the artistic merit of a calendar sent by the Crittal Manufacturing Company; an advertisement of their metal casements, with a clever line drawing of symbolical figures at the head of each of the four sheets (three months to a sheet). Calendars showing this kind of artistic merit we are always ready to appreciate, and to those who wish their calendars to be noticed in our columns we may give the advice—get an artist to design them.

A PRESERVATIVE FOR WOOD, STONE, AND BRICKWORK.—A sample of a liquid stain called "Solignum" has been sent to us by Messrs. Major & Co., Ltd., of Hull. Wood, stone, or brickwork which has been properly treated with Solignum is said to be immune from dry rot and from the attack of insects and vermin. It is used in tropical and semi-tropical countries to prevent timber from being destroyed by white ants, and in England it is used for painting fences and the wood of half-timber work. Solignum is made in seven different colours, viz., three shades of brown, three shades of green, and one of purple red. A gallon of Solignum will cover 250 to 350 sq. ft. of woodwork, the amount required varying with the quality and condition of the timber. For damp walls a special description of Solignum is prepared.

DISCOVERY AT EXETER CATHEDRAL.—A curious discovery has been made in Exeter Cathedral. Workmen engaged in the Canon's vestry suddenly came upon a deep hole covered by a stone slab. On examination a rectangular chamber was disclosed, 20 ft. by 15 ft., and about 20 ft. deep, with a vaulted roof. This chamber, the walls of which are of rubble, can only be approached by a narrow shaft from above. Several earthen and metal vessels were also discovered. Water rose readily, and it is suggested that the place was probably a well or reservoir.

ROYAL INSTITUTION LECTURES.—The six lectures for a juvenile audience, which have been given at Christmas at the Royal Institution ever since Faraday started them, are given this year by Sir David Gill, on the subject of Astronomy, and are among the best and most interesting of the Christmas courses of lectures that have ever been given there. The lecturer's demonstration by models of the effects of the earth's rotation in producing the seasons; of the meaning and reason of the precession of the equinox, and other phenomena connected with the earth and the moon, were most valuable and suitable as giving to young minds an ocular demonstration of what they read of in school primers, but perhaps rarely realise in their mental conception. The second lecture contained a great deal of most interesting information, new to some of the older among us as well as to the young, in regard to telescopes and the modern methods of ensuring the highest accuracy of observation, and getting rid of the influence of the "personal equation" on the part of the observer. Indeed, these lectures, nominally intended for the young, are not without interest and value to older hearers. How many of our "grown-ups," for instance, outside of scientific circles, are aware of Kepler's discovery of the relation of the radius vector of a planet to its speed at different portions of its orbit, and all that this implies?

Legal.

BUILDING BY-LAWS DISPUTE.

THE case of the King *v.* the Holyhead Urban District Council came before a Divisional Court of King's Bench consisting of Justices Channell, Bray and Sutton on the 19th ult.

Mr. Cunningham Glen said he appeared for the Council to show cause against a rule for a mandamus which had been obtained on behalf of the Welsh Calvinistic Methodist Community in Holyhead calling upon the Council to show cause why they should not approve and signify their approval in writing of certain plans for the erection of a chapel in the London-road. The District Council had, in fact, approved the plans conditionally upon further explanatory plans of the elevations being submitted to the Council, they having been advised by their Surveyor that the plans as submitted did not agree with the requirements of their by-laws, and were insufficient to enable the Surveyor to see whether the building to be erected would be in accordance with the by-laws, or to enable him to supervise the erection of the building and see that it was built in accordance with the by-laws.

Mr. Hughes (with him Mr. Eldon Bankes, K.C.), for the applicants, said the sole matter in dispute was whether or not the local authority could under the by-laws demand the deposit of elevations. He submitted not, and that the local authority had no right to impose any such conditions.

Mr. Glen read affidavits showing that the cost of tracings of the elevations would be only 10s. 6d. It was not true that the Council demanded these elevations as a matter of right.

Mr. Justice Channell, in giving judgment, said if it had been made out that the Council wanted the elevations to see if they would approve the building they might have been going out of their way, and a rule might have been granted against them to hear and determine the matter according to law. But they had given a perfectly reasonable and *bonâ fide* explanation of why they wanted the elevations, and the rule must therefore be discharged, with costs.

The other judges concurred.

FINSBURY DRAINAGE DISPUTE.

IN the King's Bench Division on the 20th ult. Mr. Justice Channell concluded the hearing of the case of Wilson's Music and General Printing Company *v.* the Finsbury Borough Council.

The facts of the case sufficiently appear from the following judgment.

His Lordship, in giving judgment, said the case involved almost all the old questions that had been discussed as to whether a particular pipe was a sewer or drain, and what the consequences were. He did not think the case involved any new questions at all. The plaintiffs' premises formed part of a block of three buildings which were erected about 1883. The drainage of these three premises went into a pipe in Turnmill-street, and there joined the main sewer. Just at the corner of the plaintiffs' premises it also took the surface drainage from a pipe that came from Broad-court and the surface drainage from four gullies. The question in the case was whether the joining of that drainage turned it into a sewer. Plans were laid before the Vestry by which the three premises were drained into the pipe. The builder said that the whole thing was done under the superintendence of the Vestry. His Lordship could not doubt that these drains were really sanctioned by the Vestry. Clearly upon the authorities the pipe in question was a sewer, because it was taking the drainage of more than one house, and the drainage of which was sanctioned. He held that the defendants were therefore liable to repair the pipe, and that the plaintiffs were entitled to damages from the time of their notice to the defendants of the same being blocked up and for the amount the plaintiffs had incurred in repairs.

Judgment accordingly.

CASE UNDER BUILDING BY-LAWS AT FELTHAM.

THE Rev. John Page Hopps was summoned, at Feltham, for contravening the building by-laws of the Staines Rural District Council by carrying out certain alterations at his residence, The Rosarie, at Shepperton, without having given notice to the Council and submitted a plan.

At the previous hearing (a report of which appeared in the *Builder* for December 21) it was stated that alterations were being carried out under the roof of the defendant's house which it was believed would have the effect of changing it from a two-story to a three-story building, which the original plans, when the house was erected, did not provide for, and the summons was then adjourned on the defendant promising to submit a plan.

Mr. Manning, Surveyor to the Staines Rural District Council, now produced a plan which the defendant had submitted, and said he had since visited the house and found that extensive alterations were being carried out under the roof. Under the roof three new rooms had been constructed; one used for the storage of books, pamphlets, etc., another used as a box-room, and a third furnished as a bedroom, which had been slept in.

Mr. Page Hopps, who defended the summons in person, said he was sorry to have to complain, but as he was summoned for not producing a plan, and had now done so, he imagined that that exhausted the summons.

Mr. C. E. Goddard, who prosecuted, pointed out that the alterations were still an infringement of the by-laws.

Mr. Page Hopps (to witness): Did you write and call on me and see these alterations?—Yes.

Then why didn't you come to me before you rushed off to get this summons, and so have saved me the degradation of being dragged into this court?—I act under the instructions of my employers.

The chairman suggested that Mr. Page Hopps should keep to the point.

Mr. Page Hopps: I am going to show that this witness is not to be believed, and that he is so prejudiced that he has given a picture that is not correct.

The Chairman: The case is that you did not send in a plan.

Mr. Page Hopps: I admit that, but I thought you were going to hear the merits of the case.

The Bench having conferred, the chairman said there would be no penalty, but the defendant would have to pay 2*l.* 2*s.* costs.—*Telegraph.*

Patents of the Week.

APPLICATIONS PUBLISHED.*

12,319 of 1907.—A. S. HYDE: *Flanged Pipe.*

THIS relates to forming a bead or projection on a pipe by expansion, crowding the two sides of the bead or projection together to form a double flange, with one side of the flange substantially at right angles to the axis of the pipe, and the opposite side of the flange at an oblique angle to the axis of the pipe and facing the oblique side of the flange to provide a contracting surface in a plane at right-angles to the axis of the pipe.

13,606 of 1907.—S. REMONTET and C. REMONTET: *Automatic door-closing Devices.*

This relates to an automatic door-closing device of the kind adapted to act on the door with varying force the maximum of which occurs towards the end of the closing movement, and comprises the arrangement wherein the lever of variable effect comprises a cam mounted on an axle said cam being connected to a spring attached to the door-frame by means of a strap adapted to be wound round said cam, the lever of constant effect being also connected to said axle.

14,089 of 1907.—R. SCHMIDT and H. ROSENTHAL: *Method of Rolling or Manufacturing Borings, Tools, and Rollers therefore.*

This relates to a method for the manufacturing of boring tools, in which the blank is provided with two grooves, one on each side of the same by rolling a determined length of the blank, the dies or ribs forming said grooves gradually passing into the blank, and the diameter of the blank being unaltered by the rolling and the shaft of the boring tool unimpaired, and also to an apparatus for carrying out the above method, consisting of rollers provided at their circumference with semicircular grooves corresponding to the diameter of the boring tool in which, for a portion of their length, ribs or raised portions are arranged.

17,952 of 1907.—E. GARTNER and F. DETTMAR: *Alarm Device for Doors and the like.*

This relates to an alarm device for doors and the like wherein an alarm-bell is connected with a lever or the like which may be so adjusted as to lie beneath the handle of the latch, said lever also having a pin which projects into the keyhole in such a manner that the alarm-bell is sounded when the lever is caused to move, either by pressing down the handle or pushing back the pin, by the insertion of a key or the like.

18,029 of 1907.—H. MITCHELL and A. MARSTON: *Padlocks.*

This relates to a padlock comprising the combination with a transversely sliding bolt or bar of a head thereon and a locking bolt for engaging said head the locking bolt being hollow at the end.

18,455 of 1907.—E. NENKE and C. GUTZEIT: *Windows.*

This relates to a window with slidable sashes consisting of two superposed sashes which can be shifted into the upper and lower fixed part respectively of the window, one sash being thereby, with the aid of cords and guiding rollers, balanced by the other sash.

20,278 of 1907.—T. F. VOCE: *A Combined Postal Knocker and Door Handle.*

This relates to a combined postal knocker, handle, and letter slot cover, comprising a pivoted handle, to which the slot cover is secured, the handle or the cover, or both, being weighted, while the lot is provided with a plate or edging against which the cover is adapted to strike and normally rest.

* All these applications are in the stage in which opposition to the grant of patents upon them can be made.

PATENTS—*Continued on page 29.*

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this Number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xxiii. xxiv.; Auction Sales, xxxviii.

Certain conditions, beyond those given in the following information, are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bonâ-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

***** It must be understood that the following paragraphs are printed as news, and not as advertisements: and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.**

Competitions.

JANUARY 18.—**Oldbury.**—SCHOOLS.—Oldbury U.D.C. Education Committee invite names and addresses of, architects desirous of submitting competitive plans for proposed new mixed and infant schools at the corner of Abbey-road and Barclay-road, Warley. Names should be sent to Mr. Sydney Vernon, Secretary, Public Buildings, Oldbury.

* NO DATE.—**Pontypridd.**—NEW OFFICES.—The Guardians of the Pontypridd Union invite competitive designs for erection of administration offices in Court House-street, Pontypridd. For further particulars refer to an advertisement in this issue.

Contracts.

BUILDING.

* JANUARY 6.—**Aldershot.**—STABLES.—Tenders are invited for the erection of a fifty-stall stable at Stanhope Lines, Aldershot. For further particulars see advertisement in this issue.

JANUARY 6.—**Eglingham.**—VILLA.—Tenders (joiner work excepted) are required for the erection of a villa at Eglingham for Mr. Thos. Greener. Plans, etc., may be seen at office of Mr. M. Temple Wilson, M.R.San.I., architect and surveyor, Alnwick, and copies thereof at the "Ogle Arms" Inn, Eglingham.

* JANUARY 6.—**Gosport.**—BARRACKS.—Tenders are invited for the erection of sixteen "b" married soldiers' quarters (in blocks of eight) at Gosport Barracks, Gosport. For further particulars see advertisement in this issue.

JANUARY 7.—**Cavan.**—TOWN HALL.—Cavan U.D.C. invite tenders for the erection of a new town hall. Plans, etc., at office of Mr. William A. Scott, A.R.I.B.A., 45, Mountjoy-square, Dublin, or at the Urban Council Office, Cavan. Tenders must be on the official form, copies of which can be obtained from the architect or the Clerk.

JANUARY 7. — **Gwinear Road.** — HOUSE. — The Directors of the G.W.R. invite tenders for the erection of a house at Gwinear Road Station, Cornwall. Plans, etc., may be seen, and forms of tender obtained at the office of the Engineer at Plymouth, North-road Station.

* JANUARY 8.—**Barnet.**—ALTERATIONS TO CORRIDORS. —The Middlesex District Joint Small-pox Hospital Board invite tenders for alterations to the corridors at Clare Hall Hospital, South Mimms. For further particulars see advertisement in this issue.

JANUARY 8. — **Bradford.** — MORTUARY, ETC. — The Bradford Corporation invite tenders for the erection of (1) public mortuary, Wilton-street; (2) conveniences, Rawson-square. Drawings, etc., may be seen, and bills of quantities, etc., obtained, on application to the City Architect, Whitaker-buildings, Brewery-street, Bradford.

JANUARY 8. — **Halifax.** — WAREHOUSE. — The excavators and masons', carpenters and joiners', slaters and plasterers', plumbers and glaziers', and painters' works required in the erection of a new warehouse in St. John's-place, Halifax. Names to Messrs. Utley, Hebblethwaite, and Utley, architects, 10, Waterhouse-street, Halifax.

JANUARY 8.—**Leeds.**—WAREHOUSE.—Leeds Corporation invite tenders for the partial demolition and refronting of a warehouse in Templar-street, Leeds. The drawings, etc., may be seen at the City Engineer's Office, Municipal Buildings, Leeds, and a bill of quantities may be obtained on deposit of 1*l.* 1s.

JANUARY 8. — **Sheffield.**—CONVENIENCES.—Sheffield Health Committee invite tenders for conveniences at the corner of Sedan-street and Ellesmere-road. Plans may be seen, and quantities obtained, at the City Surveyor's Office on payment of 10s.

JANUARY 8.—**Workington.**—HOTEL STOCK-ROOMS.—The erection of new stock-rooms at the Central Hotel, Workington, for the Workington Brewery Company, Ltd. Plans, etc., at the Central Hotel, Workington, or at offices of Messrs. Oliver & Dodgshun, FF.R.I.B.A., architects, Carlisle.

JANUARY 9. — **Dorchester.** — MORTUARY. — Tenders are invited for building a new mortuary, etc., at Dorset County Hospital. Plans, etc., can be seen at the Board-room of the Hospital; and form of tender, etc., obtained from the architect, Mr. Walter J. Fletcher, F.R.I.B.A., Wimborne, on payment of 1*l.* 1s.

JANUARY 9.—**Leeds.**—LAVATORY, ETC.—Leeds Sanitary Committee invite tenders for the proposed alterations to, and conversion of, old tramway offices, Boar-lane, Leeds, into ladies' lavatory, waiting-room, etc. The drawings, etc., may be seen at the City Engineer's Office, Municipal Buildings, Leeds, and a bill of quantities may be obtained on deposit of 1*l.* 1s.

JANUARY 10. — **Celbridge.**—COTTAGES.—The R.D.C. of Celbridge No. 1 invite tenders for the erection of two cottages in a block in Tea-lane, Celbridge, in accordance with a plan and specification which may be seen at the office of the Council's Engineer (Mr. J. J. Inglis), at 18, Nassau-street, Dublin.

JANUARY 11. — **Alston.** — SCHOOL. — Cumberland Education Committee invite tenders for new secondary school at Alston. Plans, etc., prepared by Mr. T. Taylor Scott, F.R.I.B.A., architect and surveyor, 38, Lowther-street, Carlisle. Quantities will be forwarded on deposit of 1*l.* 1s. at the architect's offices.

* JANUARY 12.—**Coventry.**—SCHOOL.—The Corporation of Coventry invite tenders for the conversion of Barr's Hill House into a girls' secondary school. For further particulars see advertisement in this issue.

JANUARY 13. — **Aberdare.** — VILLAS.—For building seventeen semi-detached villas at Gadlys, Aberdare, for the Wayne's Building Club. Plans, etc., can be seen at the architect's office, 1, Glanant-street, Aberdare.

JANUARY 14. — **Abertridwr.** — CHAPEL.—The Committee of the Welsh Calvinistic Methodist Chapel, Abertridwr, invite tenders for the erection of a chapel at Abertridwr. Drawings, etc. ,may be seen at the office of Mr. G. A. Lundie, 53, Queen-street, Cardiff, and at 8, King-street, Abertridwr.

JANUARY 16.—**Moira.**—COTTAGES.—Moira R.D.C. invite tenders for building fifty labourers' cottages and for fencing fifty plots. Plans, etc., can be obtained from the Clerk to the R.D.C., Union Workhouse, Lurgan, on payment of 5s.

* JANUARY 20.—**Birmingham.**—HOUSES.—The Great Western Railway invites tenders for erection of twenty-three houses on the Birmingham and North Warwickshire Railway at Shirley, Earlswood, Wood End, and Danzey Green. For further particulars refer to an advertisement in this issue.

JANUARY 20. — **Kingston.** — WALL. — Kingston Guardians invite tenders for the erection of a concrete retaining wall and oak fencing. Also for covering existing iron fencing with galvanised corrugated iron sheets. The plans can be seen, and form of tender, etc., obtained, on application to the architect, Mr. William H. Hope, 12, Clarence-street, Kingston-on-Thames.

JANUARY 20.—**Pentre.**—HALL, ETC.—The Committee of the Workmen's Institute invite tenders for taking down the old hall and the erection of a new hall and caretaker's house. Plans, etc., can be seen at the office of Mr. Jacob Rees, architect, Pentre.

* JANUARY 20.—**Southampton.**—NEW SCHOOL.—The Southampton C.C. invites tenders for a new Council School at Swaythling. For further particulars refer to an advertisement in this issue.

* JANUARY 24.—**Bedfordshire.**—SCHOOL.—The Bedfordshire C.C. invite tenders for the erection of a new school at Stopsley. For further particulars see advertisement in this issue.

* JANUARY 24.—**Bedfordshire.**—SCHOOL.—The Bedfordshire C.C. invite tenders for the erection of a new Council school at Houghton Conquest. For further particulars see advertisement in this issue.

JANUARY 25.—**Brixham.**—HOUSES.—The erection of dwelling-houses and shops in Fore-street, Brixham, for the Lords of the Manor of Brixham. Drawings, etc., may be seen, and all information obtained, at the office of the architect, Mr. Fred Wm. Vanstone, Palace-chambers, Paignton.

JANUARY 27.—**Bundoran.**—SHED.—Great Northern Railway Company (Ireland) Directors invite tenders for the erection of an engine-running shed, 124 ft. by 39 ft., in masonry, at Bundoran Station. Drawing, etc., at the office of Mr. W. H. Mills, Engineer-in-Chief, Amiens-street Terminus, Dublin, or copies of same at the District Engineer's Office, Belfast. Forms of tender on payment of 2s. each (not returnable).

* JANUARY 28.—**Ilford.**—NEW SCHOOL.—The Ilford U.D.C. invites tenders for a Public Elementary School at Goodmayes, Ilford. For further particulars refer to an advertisement in this issue.

FEBRUARY 5. — **Walton-on-Thames.** — PUMPING STATION.—The Metropolitan Water Board invite tenders for the erection of a pumping station, situate in Hurst-road, Walton-upon-Thames. Bills of quantities, etc., can be obtained at the Southern District Office, Southwark Bridge-road, S.E., on the production of an official receipt for the sum of 10*l.*, which sum must be first deposited with the Comptroller at the Board's Central Offices, Savoy-court, Strand, W.C.

* FEBRUARY 6.—**Clacton-on-Sea.**—PETTY SESSIONS HOUSE.—The Standing Joint Committee of the Court of Quarter Sessions and C.C. of Essex invite tenders for the erection of a Petty Sessional Court House, etc., at Clacton-on-Sea. For further particulars see advertisement in this issue.

ENGINEERING, IRON, AND STEEL.

JANUARY 6.—**Treforest, Pontypridd.**—HEATING. —Pontypridd Education Committee invite tenders for the installation of a low-pressure hot-water heating system in the Park School, Treforest. Plans, etc., may be seen at the office of the Surveyor to the Council.

JANUARY 7.—**London.**—BEARING PLATES.—The Secretary of State for India in Council is prepared to receive tenders for supply of bearing plates. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W.

JANUARY 8.—**London.**—ELECTRIC LIGHTING.—The Metropolitan Asylums Board invite tenders for installation of electric lighting, etc., in the motor workshops and yard at the Mead Ambulance Station, Carnwathe-road, Fulham, S.W. Drawing, etc., prepared by Mr. W. T. Hatch, M.Inst.C.E., M.Inst.M.E., Engineer-in-Chief, may be inspected at the office of the Board, Embankment, London, E.C., and can then be obtained upon payment of a deposit of 2*l.*

JANUARY 9.—**Aberdare.**—FILTER.—The U.D.C. of Aberdare invite tenders for the supply of one 8-ft. diameter Reeves' patent pressure filter, complete with all necessary accessories and fittings, etc. Plans, etc., may be seen at the Engineer and Surveyor's Office, Town Hall, Aberdare.

JANUARY 9.—**Aberdare.**—MACHINERY.—The U.D.C. of Aberdare invite tenders for the supply of two Tangye's double-action pumps, three gas engines, and suction gas plants, with all necessary accessories and fittings, etc. Plans, etc., may be seen at the Engineer and Surveyor's Office, Town Hall, Aberdare.

JANUARY 13. — **Barnes.** — CRANE. — The U.D.C. of Barnes invite tenders for the delivery and erection at the Council's Depôt, High-street, Mortlake, S.W., of a 2-ton electric locomotive crane. Specification, etc., may be obtained at the Engineer and Surveyor's Office, Council House, High-street, Mortlake.

JANUARY 13. — **Fenny Stratford.**—WELL.—Fenny Stratford U.D.C. invite tenders for sinking a well in brickwork and cast-iron cylinders, about four miles from Fenny Stratford. Copies of the specification may be obtained from the engineer, Mr. John Chadwick, Bletchley, Bucks, on payment of 2*l.* 2s.

JANUARY 14. — **Ilford.** — IRON FENCING. — Ilford U.D.C. invite tenders for the supply and erection of about 782 lin. yds. of wrought-iron unclimbable fencing and gates. Plans, etc., can be obtained of Mr. H. Shaw, M.Inst.C.E., the Engineer and Surveyor to the Council, on payment of a deposit of 2*l.* 2s.

JANUARY 14. — **Manchester.** — MACHINE TOOLS.— Manchester Corporation Tramways Committee invite tenders for the supply of machine tools. Specifications, etc., may be obtained on application to Mr. J. M. M'Elroy, General Manager, Corporation Tramways, 55, Piccadilly, Manchester.

JANUARY 14.—**Southall.**—DOCK.—Southall-Norwood U.D.C. invite tenders for the construction of a dock (about 216 ft. long) on the Adelaide Estate, Southall. Plans, etc., may be seen, and quantities, etc., obtained, at office of Mr. Reginald Brown, A.M.Inst.C.E., F.S.I., Engineer and Surveyor to the Council. Public Offices.

JANUARY 15. — **Southend-on-Sea.** — PIERHEAD WORKS.—Southend-on-Sea Corporation invite tenders for the construction of an upper deck, shelters, and other improvements at the Pierhead, Southend. Plans, etc., may be seen, and bills of quantities, etc., obtained, on deposit of 1*l.* 1s., upon application to Mr. E. J. Elford, M.Inst.M.E., Borough Engineer, Southend-on-Sea.

* JANUARY 16.—**Southwark.**—WELL AND PUMPS.— The Southwark Guardians invite tenders for alterations to well and pumps at the Infirmary, East Dulwich-grove, S.E. For further particulars see advertisement in this issue.

JANUARY 17.—**Rotherham.**—RAILS.—The Corporation of Rotherham invite tenders for the supply of tramway rails, fishplates, tiebars, bolts and nuts, and special work. Forms of tender, etc., with a deposit fee of 1*l.* 1s., from Mr. Ernest B. Martin, A.M.Inst.C.E., Borough Engineer, Town Hall, Rotherham.

JANUARY 18.—**Cardiff.**—BOILER.—The Guardians of Cardiff Union invite tenders for dismantling and removing a boiler at Ely Workhouse, and fixing a new one according to a specification prepared by their consulting engineer, Mr. S. W. Allen, M.Inst.M.E. Forms of tender may be obtained from Mr. Arthur J. Harris, Clerk, Union Offices, Queen's-chambers, Cardiff.

JANUARY 18. — **Pontsticill.** — TRIAL SHAFTS. — Merthyr Tydfil Corporation invite tenders for the sinking of four trial shafts at Pontsticill. Plans, etc., may be inspected, and forms of tender obtained, upon application to the Borough Engineer, Town Hall, Merthyr Tydfil.

JANUARY 22.—**London.**—ENGINES.—The East Indian Railway Company invite tenders for the supply and delivery of locomotive engines and tenders, as per specification to be seen at the Company's Offices, Nicholas-lane, London, E.C. For each specification a fee of 1*l.* 1s. is charged.

* JANUARY 22.—**Sutton (Surrey).**—FIRE MAINS.— The Metropolitan Asylums Board invite tenders for installing new fire mains, with hydrants, etc., at Belmont Asylum, Sutton, Surrey. For further particulars refer to an advertisement in this issue.

NO DATE.—**Crigglestone.**—RAILS.—Tenders are invited for the laying of about 1,500 yds. of 70-lb. F.B. rail, with the necessary sleepers, points, and crossings, etc., for a colliery siding. Apply, with experience, etc., to Crigglestone Collieries, Ltd., near Wakefield.

MISCELLANEOUS.

JANUARY 6.—**Darlington.**—TAKING DOWN, ETC.—Tenders are invited for (1) taking down and removing the whole of the buildings and material on the west side of the premises in Priestgate, belonging to the Darlington Co-operative Society; (2) for taking down the same and cleaning and stacking bricks, slates, sound timber, or other material, and removal only of rubbish. Further information can be obtained from Messrs. Clark & Moscrop, architects, Feethams, Darlington.

JANUARY 6.—**Hartismere.**—FURNITURE AND WORKS.—Hartismere Guardians invite tenders for the supply of furniture for wards and nurses' home. Further particulars can be obtained from the Master, Workhouse, Eye. Full particulars, specifications, etc., can be obtained from the Master, Workhouse, Eye.

JANUARY 6.—**Maidstone.**—FURNITURE, ETC.—Maidstone Education Committee invite tenders from local tradesmen for the supply of furniture and fittings for Tonbridge-road Council School. Forms may be obtained from the Secretary, Education Offices, Maidstone.

✱ JANUARY 8.—**Barnet.**—OAK FENCING.—The Middlesex District Joint Small-pox Hospital Board invite tenders for the erection of oak fencing at the Clare Hall Hospital, South Mimms. For further particulars see advertisement in this issue.

JANUARY 8.—**Hackney.**—FURNITURE.—Hackney Guardians invite tenders for the supply of furniture, etc., for the new administrative block at their Infirmary, High-street, Homerton, N.E. Tender forms, etc., may be obtained on written application to Mr. Frank R. Coles, Clerk to the Guardians, Clerk's Offices, Hackney Union, Homerton, N.E.

JANUARY 8.—**Little Budworth.**—TUBE WORK.—Winsford U.D.C. invite tenders for the work of withdrawing about 300 ft. of tubes from a borehole at the Council's Waterworks at Little Budworth. Specifications can be inspected at the office of the Surveyor to the Council, Market-place, Winsford.

JANUARY 10.—**Leeds.**—GRAVESTONES.—For supplying, lettering, and fixing gravestones at the Leeds, Holbeck, Hunslet, and Harehills Cemeteries. Particulars may be obtained at City Engineer's Office, Leeds.

JANUARY 13.—**London.**—LAMPS.—The Bengal and North-Western Railway Company, Ltd., invite tenders for the supply and delivery of 15,456 incandescent lamps, as per specification to be seen at the Company's Offices, 237, Gresham House, Old Broad-street, London, E.C. For each specification a fee of 10s. will be charged, which cannot under any circumstances be returned.

✱ JANUARY 13.—**Poplar.**—BARGING AWAY REFUSE.—The Poplar Works Committee invite tenders for barging away road sweepings and house refuse. For further particulars see advertisement in this issue.

JANUARY 13.—**Sandgate.**—SCAVENGING.—Sandgate U.D.C. invite tenders for the scavenging of house refuse. Particulars can be had at the office of the Council's Surveyor, Sandgate.

✱ JANUARY 14.—**Leyton.**—CORRUGATED IRON BUILDING.—The Leyton U.D.C. invite tenders for erection of corrugated iron building at their Isolation Hospital. For further particulars see advertisement in this issue.

✱ JANUARY 16.—**Hampstead.**—HORSING CARTS.—The Hampstead B.C. invite tenders for horsing carts. For further particulars see advertisement in this issue.

✱ JANUARY 16.—**Hampstead.**—REMOVAL OF SLOP.—The Hampstead B.C. invite tenders for the removal of slop from roads and gullies. For further particulars see advertisement in this issue.

JANUARY 20.—**Shalford, Hambledon.**—SCAVENGING.—The R.D.C. of Hambledon invite tenders for the collection and removal of dust, ashes, house refuse, and the contents of earth closets, and for the cleansing of the cesspools in the whole of the Parish of Shalford. Forms of tender, etc., can be obtained on application at office of Mr. Ferdinand Smallpeice, Clerk to the Council, 138, High-street, Guildford, or of Mr. E. G. Randall, the Clerk of the P.C. of Shalford.

PAINTING, etc.

JANUARY 6.—**Denholme.**—PAINTING.—For painting and decorating Mechanics' Hall and staircases at Denholme. Mr. Peter Wright, Secretary.

JANUARY 9.—**Ipswich.**—PAINTING.—Ipswich Guardians invite tenders for painting the exterior of St. John's Home, Ipswich. Specifications, etc., may be obtained at office of Mr. Richard J. Kent, Clerk to the Guardians, 19, Tower-street, Ipswich.

JANUARY 13.—**Ebbw Vale.**—PAINTING.—Ebbw Vale Education Committee invite tenders for painting the exteriors of the following schools, viz.:—Waunlwyd mixed and infants', Pontygof boys', Pontygof girls', and Pontygof infants'. Specification, etc., may be obtained upon application to the Committee's architect, Mr. Henry Waters, Market-chambers, Ebbw Vale.

JANUARY 20.—**Portsmouth.**—PAINTING.—Portsmouth Corporation invite tenders for clearing off and painting Ports Bridge at the Hilsea Lines and the lamps and approaches thereto. The specification may be seen, and a form of tender obtained, at the Borough Engineer's Office at the Town Hall.

ROADS, SANITARY, AND WATER WORKS.

JANUARY 1.—**Isleworth.**—STREET WORKS.—Heston and Isleworth U.D.C. invite tenders for the making-up of Aylett-road, Isleworth. The plans, etc., may be seen, and specification, etc., obtained, from Mr. J. G. Carey, the Engineer and Surveyor to the Council, Council House, Hounslow, on payment of the sum of 1*l.* 1s.

JANUARY 2.—**Gravesend.**—MAKING-UP.—Gravesend T.C. invite tenders for making-up part of the Avenue. Plans, etc., may be seen at the Borough Surveyor's Office, Town Hall, Gravesend.

JANUARY 3.—**Alnwick.**—SEWERAGE.—Alnwick U.D.C. invite tenders for extension of 6-in. and 9-in. public sewerage at Fisher-lane, and for extensions of 3-in. and 4-in. cast-iron coated water mains at Stott-street and Prudhoe-street, etc. Specifications, etc., are to be seen at the U.D.C. Offices, Green Batt.

JANUARY 6.—**Cramlington.**—PATHS.—Cramlington U.D.C. invite tenders for the construction of cemetery works during the spring of 1908. Plans, etc., may be seen on application to Mr. W. J. Coulson, Surveyor, Council Office, Cramlington.

JANUARY 6.—**Inverness.**—ROAD WORKS.—Works on Allangrange Estate, Ross-shire.—Contract No. I.—Reconstruction of road from Redfield to Munlochy. Contract No. II.—Construction of a new approach road to mansion-house. Plans, etc., may be seen with, and schedules of quantities obtained from, Messrs. Geo. Gordon & Co., civil engineers, Inverness.

JANUARY 6.—**Southall.**—DAM.—Southall-Norwood U.D.C. invite tenders for the provision, driving, and maintenance of a dam at the proposed dock on the Adelaide Estate, Southall, and incidental works. Plans, etc., may be seen, and form of tender obtained, at office of Mr. Reginald Brown, A.M.Inst.C.E., F.S.I., Engineer and Surveyor to the Council, Public Offices.

JANUARY 6.—**Taunton.**—ROAD WORKS.—Taunton T.C. invite tenders for making-up, etc., of road. Plans, etc., may be seen, and quantities, etc., obtained, at the office of Mr. David Edwards, A.M.Inst.C.E., Borough Engineer and Surveyor, Municipal Buildings, Taunton.

JANUARY 7.—**Handsworth.**—ROAD WORKS.—The U.D.C. of Handsworth invite tenders for making Regent-road. All particulars may be obtained on application to Mr. H. Richardson, A.M.Inst.C.E., Surveyor to the Council.

JANUARY 7.—**Tynemouth.**—ROAD WORKS.—Tynemouth Corporation invite tenders for excavating, laying a rubble foundation, and paving with whinstone chips in West Percy-road, Lovaine-place West, etc. Plan, etc., may be seen at the office of Mr. John F. Smillie, Borough Surveyor.

JANUARY 8.—**Dumbarton.**—HARBOUR WORKS.—The Dumbarton Harbour Board invite tenders for deepening and widening the channelway of the River Leven by the removal of mud and rock on the site of the rock known as the "Black Lair," on the west side of Dumbarton Castle Rock. Plans, etc., from Mr. Robert Henderson, M.Inst.C.E., 14, Queen-street, Edinburgh, on payment of 1*l.* 1s.

JANUARY 8.—**Leeds.**—STREET WORKS.—Leeds Highways Committee invite tenders for paving and flagging of streets. Drawings may be seen at the City Engineer's Office, Municipal Buildings. Forms of tender, etc., may be obtained on application at the Highways Office, 155, Kirkstall-road, Leeds.

JANUARY 9.—**Monaghan.**—WATER SUPPLY, ETC.—The Joint Committee of Monaghan Asylum invite tenders (1) for augmented water supply to new building, according to specification, which may be examined at Asylum; (2) for supply of twenty-four improved safety channel scrapers. Mr. R. L. Donaldson, Resident Medical Superintendent.

JANUARY 9.—**York.**—STREET WORKS.—The Corporation of York invite tenders for the sewering, levelling, paving, metalling, channelling, etc., of all private streets. Drawings, etc., may be seen, and specification, etc., obtained, on application at the City Engineer's Office, Guildhall, York. 1*l.* 1s. to be deposited for specification and form of schedule of prices.

JANUARY 10.—**Essington.**—SEWERAGE WORKS.—Cannock R.D.C. invite tenders for Essington sewerage and sewage disposal. Plans, etc., may be seen, and specifications, etc., may be obtained, on application to the Engineer to the Council, Mr. Herbert M. Whitehead, Engineer's Office, Penkridge, Stafford, upon payment of 2*l.* 2s.

JANUARY 10.—**Penrith.**—SEWERAGE WORKS.—Penrith U.D.C. invite tenders for the construction of sewers. Conditions, etc., may be obtained, and drawings inspected, at the Town Hall, upon receipt of a deposit of 2*l.* 2s. Full particulars may be obtained from the engineers, Messrs. Brierley, Holt, & Co., of Blackburn or Blackpool, or from the Resident Engineer, Mr. J. J. Knewstubb, Town Hall, Penrith.

JANUARY 10.—**Porth.**—WIDENING.—Rhondda U.D.C. invite tenders for the widening and improvement of Cymmer-road, Porth. Plans may be seen, and specifications, etc., obtained, at the Public Offices, Pentre, Rhondda, on depositing a sum of 1*l.* 1s.

JANUARY 14.—**Inverurie.**—WATERWORKS.—Supplying and laying about seven miles of cast-iron pipes for the most part 8 in. diameter, including excavations, tanks, valves, and other relative works in connexion with the Easterton scheme for the water supply of the Royal Burgh of Inverurie. The plans, etc., may be seen with Messrs. Jenkins & Marr, C.E., and architects, 16, Bridge-street, Aberdeen, who will supply schedules of quantities on deposit of 2*l.* 2s. The engineers will meet intending contractors at Old Meldrum Railway Station on January 7, at 10.45 a.m., for the purpose of showing the line of the works

JANUARY 16.—**Hollingbourn.**—SEWERAGE.—Hollingbourn Guardians invite tenders for the providing, laying, and construction of pipe distributor, manhole, etc., at the Hollingbourn Workhouse. Specifications can be seen at the offices of the Council, No. 33, Earl-street, Maidstone.

JANUARY 16.—**Mayfield, Uckfield.**—SEWERAGE.—The R.D.C. of Uckfield invite tenders for the construction of sewerage and sewage disposal works for the eastern portion of the village of Mayfield. Plans, etc., from Mr. John Taylor, the Surveyor to the Council, on payment of the sum of 2*l.* 2s.

✱ JANUARY 18.—**Dartford.**—SEWERAGE.—The Dartford R.D.C. invite tenders for construction of sewers in the Parishes of Eynsford, Marningham, and Sutton-at-Hone. For further particulars refer to an advertisement in this issue.

JANUARY 18.—**Wigan.**—SEWAGE DISPOSAL WORKS.—Wigan Corporation invite tenders for the supply and delivery of 12,800 lin. yds. of 36-in. and 3,120 lin. yds. of 27-in. cast-iron socket pipes. Specification, etc., can be obtained on application to Mr. William Bolton, Borough Engineer, King-street West, Wigan.

JANUARY 21.—**Wembley.**—ROAD WORKS.—Wembley U.D.C. invite tenders for the making-up of Pembroke-road. The drawings, etc., may be seen at the office of Mr. Cecil R. W. Chapman, the Surveyor to the Council, at the Public Offices, Wembley. A copy of the quantities, with form of tender attached, may be obtained at office of Mr. Fredk. W. Rodd, Clerk to the Council, Public Offices, Wembley, N.W., upon payment of a deposit of 3*l.* 3s.

JANUARY 24.—**Stratton and Bude.**—SEWERAGE WORKS.—Stratton and Bude U.D.C. invite tenders for works required to be done and materials to be supplied in connexion with works of sewerage. Plans, etc., may be seen at the office of the Engineer for the Works, Mr. W. J. Dunbar, C.E., Bude; at the office of the consulting engineer, Mr. Baldwin Latham, M.Inst.C.E., Parliament-mansions, Victoria-street, Westminster, S.W.; or at office of Mr. G. H. Gurney, Clerk to the Stratton and Bude U.D.C., Council Offices, Bude, North Cornwall. The quantities, etc., may be obtained on application to Clerk on the deposit of 5*l.* in a Bank of England note or cash.

JANUARY 29.—**Middlesbrough.**—PAVING.—Middlesbrough Streets Committee invite tenders for paving carriageway. The plans, etc., may be seen, and copies of the specification, etc., can be obtained, at the Borough Engineer's Office, Municipal Buildings, Middlesbrough, on payment of 1*l.* 1s.

NO DATE.—**Gilsland.**—FORMING, ETC.—The Thirlwall Company, Ltd., Gilsland, Northumberland, invite tenders for forming and laying complete the railway sidings for the colliery. Plans, etc., can be had at Colliery Office, Gilsland.

STONE, MATERIALS, AND STORES.

JANUARY 1.—**Ipswich.**—MATERIALS.—Ipswich Corporation invite tenders for road materials. Specifications, etc., may be obtained on application at office of Mr. E. Buckham Borough Surveyor, Town Hall, Ipswich.

JANUARY 8.—**Bexley.**—MATERIALS.—Bexley U.D.C. invite tenders for the supply of granite, flints, ragstone, and best glazed stoneware pipes, etc. Specifications, etc., from Mr. W. T. Howse, Surveyor, Council Offices, Bexley Heath, Kent.

JANUARY 8.—**Kingston-on-Thames.**—GRANITE.—Kingston-on-Thames Corporation invite tenders for the supply of 1,740 tons of Quenast, Guernsey, or other granite. Form to be obtained of the Borough Surveyor, Mr. R. Hampton Clucas, at the Municipal Offices, where samples must be left.

JANUARY 8.—**Woodbridge.**—ROAD MATERIAL.—Woodbridge R.D.C. invite tenders for road materials. No form of tender will be supplied. Tenders, accompanied by samples, to be delivered (carriage paid) to Mr. H. E. Kell, Council Offices, Woodbridge.

JANUARY 9.—**Brighton.**—GRANITE SPALLS.—Brighton B.C. invite tenders for the supply of 1,000 tons of granite spalls. The specification, etc., may be obtained on application at the office of the Borough Surveyor at the Town Hall, Brighton.

JANUARY 9.—**Nottingham.**—STORES.—Nottingham Lighting Committee invite tenders for the supply of requisites during the year 1908. Further particulars, etc., may be obtained from Mr. Rhodes, Lighting Inspector, St. John's-street.

✱ JANUARY 13.—**Poplar.**—VARIOUS MATERIALS, ETC.—The Poplar Works Committee invite tenders for supply of various materials. For further particulars see advertisement in this issue.

JANUARY 14.—**Lancaster.**—SUPPLIES.—Lancaster Corporation invite tenders for the supply of fireclay pipes, grit setts, Portland cement, road materials, setts, flags, and curbs (Haslingden rock). Forms of tender and further particulars may be obtained on application at the office of Mr. John C. Mount, Borough Surveyor, Lancaster.

JANUARY 14.—**London.**—STORES.—Bombay, Baroda, and Central India Railway Directors invite tenders for the supply of (1) chemically-dressed wagon covers; (2) metals; (3) white lead. Tenders must be made on forms, copies of which, with specifications, can be obtained at offices, Gloucester House, 2, 3, and 4, Bishopsgate-street Without, London, E.C., on payment of 1*l.* 1s. each for 1 and 2, and 10s. 6d. for 3. Deposits not returned.

JANUARY 16.—**Plymouth.**—GOODS.—Plymouth Corporation invite tenders for the supply of goods and materials for a period of one year. Particulars, etc., can be obtained at office of Mr. Frank Howarth, M.Inst.C.E., Water Engineer, Municipal Buildings, Plymouth.

JANUARY 17.—**Leeds.**—PIPES, ETC.—Leeds Corporation Waterworks Committee invite tenders for the supply of about 1,339 tons of 24-in. internal diameter straight cast-iron pipes and 13 tons of irregular pipes and castings. Tender forms, etc., may be obtained on application to Mr. Charles G. Henzell, Waterworks Engineer, Leeds.

JANUARY 18.—**Harrogate.**—PORTLAND CEMENT.—Harrogate Corporation invite tenders for the supply and delivery at Masham Station, N.E.R. Company, of 3,500 tons or thereabouts of best Portland cement (English manufacture only). Specifications, etc., can be obtained at the office of Mr. Edw. Wilson Dixon, M.Inst.C.E., Engineer, 14, Cambridge-crescent, Harrogate.

✱ JANUARY 20.—**Camberwell.**—STORES, ETC.—The Camberwell B.C. invite tenders for the supply of various stores, etc. For further particulars see advertisement in this issue.

JANUARY 29.—**Middlesbrough.**—MATERIALS.—Middlesbrough Streets Committee invite tenders for materials. Specifications, etc., may be seen, and copies of the specification, etc., obtained, at the Borough Engineer's Office, Municipal Buildings, Middlesbrough, on payment of 1*l.* 1s.

JANUARY 30.—**Goole.**—STORES.—Goole U.D.C. Highway and Sewers Committee invite tenders for the supply of stores and materials. Forms of tender, etc., may be obtained by applying to Mr. E. Hazledine Barber, A.M.Inst.C.E., Town Engineer and Surveyor, Engineer and Surveyor's Office, Goole.

FEBRUARY 3.—**Bermondsey.**—CONTRACTS.—Bermondsey B.C. invite tenders for the supply of articles for one year. Forms of tender, etc., can be obtained on application to Mr. Fredk. Ryall, Town Clerk, Town Hall, Spa-road.

NO DATE.—**Wisbech.**—MATERIALS.—Wisbech Corporation invite tenders for the supply of materials. Full particulars may be obtained from Mr. K. J. S. Harris, Borough Engineer and Surveyor.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in
*RATING SURVEYOR	Corporation of London	500l. per annum	Jan. 13
*CARPENTER	Bermondsey Guardians	2l. per week	Jan. 18
*EVENING LECTURERS	Northern Polytechnic Inst.	See advertisement in this issue	No date
*INSTRUCTOR IN WOODWORK	Northern Polytechnic Inst.	See advertisement in this issue	do.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*FREEHOLD BUILDING SITE, BAYSWATER—At the Mart	Hampton & Sons	Jan. 20
*STOCK OF SANITARY ENGINEERS, IRONMONGER, ETC.—Craven House, Kingsway, W.C.	T. J. Skelding	Feb. 4
*FREEHOLD BUILDING SITE, MAYFAIR—At the Mart	Farebrother, Ellis, & Co.	Feb. 27

PATENTS.—*Continued from page 26.*

11,550 of 1907.—S. DEAN: *Extension Ladders.*

This relates to an extension ladder having a bracket with arms pivoted to the bottom section of the ladder, and the bearings of which have stops, and consists in so arranging the pivots in relation to the arms of the said bracket that the latter when tilted will automatically regain its normal position against the said stops.

11,243 of 1907.—P. H. DE PORTEMEONT: *Pulley or Ends for Blind Rollers.*

This relates to a metal pulley or end for blind rollers the drum of which is provided with blades or teeth preferably stamped out of the metal of the pulley and projecting radially towards the centre of the latter so as to penetrate the wood of the roller, and thus fix the pulley on the end of the latter.

11,252 of 1907.—G. P. MILNES: *Float Valves.*

This invention relates to a float valve for cisterns having an automatically operated variable flow device and an additional full-way valve arranged to come temporarily into the operation.

11,622 of 1907.—W. BAADE: *Apparatus for Bending Wood.*

This relates to an apparatus for bending wood wherein the wood which has already been steamed is bent in the well-known manner in a heating removable bending mould by means of a moving pressure roller, characterised by the fact that the connexion between the adjustable roller and its controlling lever is effected by means of a wedge, the inclined bent edge of which engages with a hook-like projection on the carriage of the pressure roller.

2,530 of 1907.—R. H. QUINE: *Receptacles for Portable Dustbins and Doors for same.*

This relates to the combination, in a receptacle for movable dustbins, of a frame of wood or iron having trenches or their equivalent in which is secured a cage of horizontal and vertical bars with runners attached to support the bin, and protected by a rain cover concave from front to back as to its upper surface and with turned-down margins, and a movable door, secured below by turned-up bars or lugs, and above by a lock or hatch.

5,765 of 1907.—G. DIRKS: *Machine for Pulverising Clay and Separating Stones therefrom.*

This relates to a device for the removal of stones in brick clay, which consists of a centrifugal machine comprising a combination of a box, a horizontal drum rotatable at very high speed in the said box, and composed of a pair of wheels connected with each other by peripherally-disposed blades, a widely-overlapping double cap, the said drum being provided with discharge openings and crowned by a hopper, an adjustable and a fixed partition, and means adapted to prevent any material from adhering to said drum.

6,593 of 1907.—W. B. ROBERTSON: *Combined Protractor and Straight Edge for Delineating and Measuring Angles.*

This relates to a combined slotted protractor and straight edge for delineating and measuring angles, comprising the arrangement of an arm pivoted in the centre of the circular lines of said protractor and adapted to form between its projecting end and the upper line of the straight edge the same angle as that to which its other end has been adapted in the slotted protractor.

21,630 of 1907.—R. BROCKE: *Automatic Flushing Apparatus.*

This relates to an intermittently-acting siphon flushing device with a filling chamber mounted above the siphon compartment, and serving for flooding the vertex of the siphon, the opening in the bottom of said filling chamber containing a shut-off valve which is adapted to be opened by means of a float in the siphon section, characterised by a spherical float valve serving as a closure for the filling chamber, and a siphon bell made in the form of a float which, when the water rises, lifts the float valve from its seat by means of a projection.

17,333 of 1907.—J. MCMYLER: *Grab Buckets.*

This relates to a clam shell or grab bucket, comprising the combination with a frame and two bucket jaws of suspension bars pivoted to the said frame at their upper ends and pivotally connected at their lower ends with said bucket jaws respectively near the rear ends thereof, other suspension bars pivoted to said frame at points located on opposite sides of the connexion between the first-named bars and the frame, which bars cross the corresponding bars and are respectively pivoted at their lower ends to said bucket jaws, a vertically movable block mounted in the frame, and bars pivotally connected at their upper ends with said block and suitably connected at their lower ends with the bucket jaws respectively.

17,393 of 1907.—W. MITFORD: *Joint for Railway and Tramway Rails and for Girders.*

This relates to an expansion-box in combination with a fish-plate whether parallel or tapered, and a key inserted between the said fish-plate and the expansion-box, as applied to railway and tramway rails and to girders to form a joint, in which the rails or girder is supported clear of the sole or floor of the expansion-box by the expansion-box jaw on one side, and the fish-plate on the other, being jammed against the flanges thereof, when the wedge or key is screwed up tight.

27,454 of 1906.—R. GRIFFITHS and W. PARRY: *Coin-freed Door and like Locks or Fasteners.*

This relates to a coin-freed door lock or fastener having a lever catch, one end of which is acted upon by the coin and the other end operating in connexion with a catch, said catch having a raised part, by which, when the latch is lifted a portion of its opening movement by the coin, its further opening movement is effected by said raised part of the catch when the door is opened.

27,992 of 1906.—P. R. GLASS: *Tack or Nail-holding and Driving Devices.*

This relates to a hand tacker having a reciprocating driver, a driving head, a head block, a sliding separating block having a bearing member or barrel slidable in said head block, and a plunger rod for engagement with the bearing member or barrel of said separating block, to permit the same alternately to be retracted and advanced on reciprocating movement of the driver.

29,230 of 1906.—J. CROOK: *Hinging of the Seats and Lids of Closets.*

This relates to an earthenware closet formed with lugs cast solid with the closet, each of which lugs is formed with two holes or borings, one slightly to the rear and above the other hole, in combination with the seat and lid, these latter being bored through their rear edge, and rods which pass respectively through the lugs, and also through the seat and lid, and serve as hinge pins therefore, and which are held in position by nuts.

29,551 of 1906.—T. H. PETERS and F. CLARKSON: *Device for Fastening and Releasing Doors.*

This relates to a device for fastening and releasing doors, consisting of a cylinder containing a piston, which can be actuated by air or steam pressure or by a vacuum, the rod of said piston being thrust forward and backward and acting as a bolt for the door, or being employed to operate one or more bolts either directly or through the medium of other rods, chains, or levers, or other convenient devices.

1,342 of 1907.—W. BIRDTHISTLE and R. WARDLAW: *Working and Using of Venetian Blinds.*

This relates to means for enabling the laths of a venetian blind to be collected at the upper portion thereof, consisting of clips adapted to be secured to the ladder webs of the blind by pins and hooks, engaging hingewise with the upper ends of said clips, adapted to be slipped on to and to grip the required lath and provided with bent portion for holding the lifting cord.

4,404 of 1907.—A. CLARK: *Apparatus for Supplying Disinfectant to Flushing-cisterns.*

This relates to the construction of a cistern and apparatus suitable for automatically deodorising or disinfecting the discharges acted upon by the water from a flushing cistern, and replacing the exact quantity of the liquid drawn off on every occasion of the discharge. The cistern is constructed with a second chamber for holding a disinfectant liquid, and a siphon is used to draw a small quantity of the disinfectant into the cistern from the said second chamber when the cistern has been discharged. A tube is also provided from the nose of the ball-cock of the cistern, and is of a suitable size so as to exactly fill up the said second chamber to the extent to which it has been drawn upon by the siphon.

5,466 of 1907.—J. BURNETT & W. F. C. HOWIE: *Siphon Flushing-cisterns.*

This relates to a siphon flushing-cistern for water-closets, having a displacer-plate adapted to be slipped endwise into position and pivoted directly to the body of the siphon by engagement with sockets formed on the siphon body, and consists of means whereby the plate is retained in position without the use of auxiliary locking and sealing means, such as a detached pin or a lead seal.

6,225 of 1907.—A. S. REAVIS: *Concrete Building Construction.*

This relates to a bar adapted to be used as a core to be embedded in concrete, comprising a solid flat-sided body angular in cross section, a series of straight ribs extending lengthwise to the body along the angles or corners thereof, and short transverse ribs extending at right angles to the longitudinal ribs, said short ribs crossing the flat sides of the body and interrupting the channels formed by the longitudinal ribs.

9,327 of 1907.—P. F. GUTHRIE and T. HAYES: *Waste outlets for Baths, Basins, and like fixtures.*

This relates to waste outlets for baths, basins, and like fixtures having a stand-pipe and a hollow waste-valve, controlling a seat on the stand-pipe, comprising the arrangement of an automatic device for relieving the upper closed end of the stand-pipe of compressed air, and for normally closing the hollow waste-valve to prevent the passage of foul air into the room in which the fixture is located.

18,485 of 1907.—G. AMBORN: *Chain Pipe Wrenches and Vices.*

This relates to a chain pipe wrench or similar device, having a rearwardly extending locking recess and a forwardly extending retaining recess, the latter being of greater depth than the former, in combination with a chain having engaging faces, such as pintles, one of which is adapted to lie in the retaining recess, while the next rearward pintle is in the locking recess.

8,008 of 1907.—G. E. NYE and G. A. KREIS.—*Interlocking Metal Sheet Piling.*

This relates to interlocking metal sheet piling, comprising units, each consisting of a channel-bar, within which is mounted a channel-bar of less width, having the free ends of its flanges bent over outwardly so as to overhang the spaces or recesses formed between the flanges of the outer and inner channel-bars, the said spaces receiving the flanges of other channel-bars alternated, with said double units or of other of said double units, the interlocked members being securely held against relative lateral movement by the

relative engagement of the flanges with each other and the engagement of the overturned free ends of the flanges of the inner channel-bars of the double units with the outer faces of the edge portions of the webs of adjacent channel-bars.

8,901A of 1907.—THE NATIONAL WATER MAIN CLEANING COMPANY: *Pipes and the like to Facilitate Cleaning thereof.*

This relates to means for introducing cleaning devices into water mains and removing the same therefrom, comprising an inclined or Y-pipe, so arranged with reference to the main that the cleaning devices may be readily lowered into and drawn out of the main through the inclined or Y pipe.

1,950 of 1907.—J. STOTT: *Water-heaters.*

This relates to an apparatus for heating water of that class patented on March 29, 1906, No. 7,610, and consists of a bell or float situated in the expansion-chamber and connected by a rod or otherwise to a water supply tap so that, by the variations of pressure in the expansion-box, the bell is moved to open or close the tap to determine the supply of cold water, and so keep the water passing through and from the apparatus at practically one temperature.

5,118 of 1907.—A. C. PILKINGTON: *Manufacture of Ornamented or Figured Glass Sheets or Plates.*

This relates to a sheet of glass showing a figuring or ornamentation formed of two sheets of glass caused to adhere the one to the other, one of said sheets having the figuring or ornamentation on its contacting surface, while the outer surfaces of both sheets of glass are plain.

5,677 of 1907.—E. C. E. JACQUOT: *Panels and the like for Constructive purposes.*

This relates to a panel composed of a plurality of sheets of wood, between which wire gauze is arranged, said sheets being connected together by cement, and the said element being subjected until the cement is dry to such pressure that the wires of the gauze are to a certain extent embedded in the sheets of wood.

7,724 of 1907.—G. S. MACLEOD: *Wire Fencing.*

This relates to a fence wire composed of twisted strands, and consists in mounting rotary spurs or rowels along the outside of the strands so that the tension on the same will not interfere with the rotary movement of the spurs or rowels.

12,909 of 1907.—L. RUEGG: *Bit-holders for Hand Drills.*

This relates to the combination with a casing of a rotatable drill socket, having a flat-sided axial recess extending to the front edge thereof, a bit-holder conformable to said recess and slidably interfitting therein, said bit-holder having an enlarged flat-sided recess, a constricted groove leading therefrom, and a pawl pivoted upon said drill socket, and having its working portion projected therethrough, said bit-holder being formed with a notch in one of the faces thereof and adapted to receive said pawl, and with a curved end beyond said notch.

27,147 of 1906.—F. W. CAMPBELL: *Concrete Piling.*

This relates to means for use in excavating for and forming concrete piles consisting of an outer tube, with a driving-end secured thereto, and having a separable cutting-ring or separable cutting-point with a passage through it to admit of the earth or soil as the tube is being driven to pass into the inner tube, the separable cutting-ring or separable cutting-point being detachable and left in the ground, in combination with an inner tube, having an end-piece or point in one or more parts, and made of suitable material capable of being closed or collapsed by percussive or other force so as to hold or retain the excavated or contained earth or soil when said inner tube is being withdrawn from the outer tube.

29,612 of 1906.—F. W. CAMPBELL: *Concrete and other Piling.*

This relates to the formation of concrete, timber, and concrete, and timber piles, and consists in the application and use of an outer pile, having a cutting-ring or cutting-edge secured thereto in combination with an inner pile, having a closed driving-point or closed driving-end secured thereto.

3,509 of 1907.—L. W. ROSS: *Machine for Working Stone and other Substances.*

This relates to an apparatus for working stone and other substances such as compositions, metal, wood, and other materials, to be drilled, pounded, cut, polished, or otherwise dressed, by means of which bits are caused to travel and operate over the surface of the substance of the type, comprising a vertical column, having a radially movable and vertically adjustable arm in which a shaft is revolubly mounted, and consists of a tool, or bit, provided with reciprocative mechanism, a slide, a longitudinally yieldable connecting rod between said reciprocative mechanism and said slide, a spring compressed between said reciprocative mechanism and said slide to extend said connecting rod, a plunger rod adjustable in said slide, and a tool-holder carried by said plunger-rod.

10,810 of 1907.—S. C. BROWN: *T-square and Drawing-boards.*

This relates to a combination drawing-board and T-square, comprising a metal or other guide fixed to the edge of the drawing-board, rollers pivotally attached to the inside edge of the butt portion of the T-square, a knob or handle upon the butt or blade of the square, and a locking-lever and clamp upon the butt of the square, with or without a protractor.

11,718A of 1907.—C. CHRISTIANSEN: *Distribution Valve for Rock-drilling Machines.*

This relates to a modification of the valve described in specification 11,718, 1907, wherein said valve consists of a flap turning on a pivot with pieces through its centre of gravity, in such a manner that the portion of the flap which is on one side of the pivot controls one duct, while the portion on the other side of the pivot controls the other duct, and consists in both ducts being controlled by the portion of the flap on one side of the pivot.

PUBLISHER'S NOTICES.

Nat. Tel., 6112 Gerrard. Telegrams, "The Builder, London."

THE INDEX (with TITLE-PAGE) for VOLUME XCIII. (July to December, 1907) will be given as a supplement with the next issue.

CLOTH CASES for Binding the Numbers are now ready, price 2s. 6d. each; also

READING CASES (Cloth), with Strings price 9d. each,

THE NINETY-THIRD VOLUME of "The Builder" (bound), price Twelve Shillings and Sixpence, will be ready on the 20th inst.

SUBSCRIBERS' VOLUMES, on being sent to the Office, will be bound at a cost of 3s. 6d. each.

CHARGES FOR ADVERTISEMENTS.

COMPETITIONS, CONTRACTS, ALL NOTICES ISSUED BY CORPORATE BODIES, COUNTY AND OTHER COUNCILS, PROSPECTUSES OF PUBLIC COMPANIES, SALES BY TENDER, LEGAL ANNOUNCEMENTS, etc., etc.

Six lines or under ..... 6s. 0d.
Each additional line ..... 1s. 0d.

SITUATIONS VACANT, PARTNERSHIPS, APPRENTICESHIPS, TRADE AND GENERAL ADVERTISEMENTS.

Six lines (about fifty words) or under ..... 4s. 6d.
Each additional line (about ten words) ..... 0s. 6d.

Terms for series of Trade advertisements, and for front page and other special positions, on application to the Publisher.

SITUATIONS WANTED (Single-handed—Labour only).

Four lines (about thirty words) or under ..... 2s. 6d.
Each additional line (about ten words) ..... 0s. 6d.

PREPAYMENT IS ABSOLUTELY NECESSARY.

*** Stamps *must not* be sent, but all sums should be remitted by Postal Orders, payable to J. MORGAN, and addressed to the Publisher of "THE BUILDER," 4, Catherine Street, W.C.

Advertisements for the current week's issue are received up to ONE p.m. on THURSDAY, but "Classification" is impossible in the case of any which may reach the Office after TWELVE NOON on that day. Those intended for the Outside Wrapper should be in by TWELVE NOON on WEDNESDAY.

ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before TEN o'clock on WEDNESDAY MORNING.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, etc., left at the Office in reply to advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

ADVERTISERS in "THE BUILDER" may have *Replies addressed to the Office, 4, Catherine Street, Covent Garden, W.C., free of charge.* Letters will be forwarded if addressed envelopes are sent, together with sufficient stamps to cover the postage. Unused stamps are returned to advertisers the week after publication.

N.B.—The Reply Boxes are not intended for trade lists, circulars, and the like; should these be received, they cannot (if noticed) be forwarded.

AN EDITION Printed on THIN PAPER, for FOREIGN and COLONIAL CIRCULATION, is issued every week.

READING CASES { NINEPENCE EACH. By post (carefully packed) 1s.

MEETINGS.

SATURDAY, JANUARY 4.

Royal Institution.—Sir D. Gill, K.C.B., on "Astronomy, Old and New."—IV. 3 p.m.

MONDAY, JANUARY 6.

London Institution.—Mr. Arnold White on "The Problems of a Great City." 5 p.m.

Liverpool Architectural Society.—Mr. W. H. Thorpe on "Villas and Gardens of Rome, Tivoli, and Frascati." Lantern slides. 6 p.m.

Royal Institute of British Architects.—The Fifth General Meeting (Business) of session 1907-1908:—(1) Election of candidates for membership under by-laws 7, 8, and 9. (2) Mr. C. R. Guy Hall to move the following resolution: "That the Council be desired to consider the advisability of holding an examination in honours and to report to a general meeting." The Business General Meeting will be followed by an Ordinary General Meeting for the reading of a paper on "Safety Exits for Theatres and Other Places of Entertainment," by Mr. S. Hurst Seager, of Christchurch, N.Z. To be illustrated by models. 8 p.m.

TUESDAY, JANUARY 7.

Royal Institution (Christmas Lectures adapted to a Juvenile Auditory).—Sir D. Gill, K.C.B., on "Astronomy, Old and New."—V. 3 p.m.

WEDNESDAY, JANUARY 8.

Edinburgh Architectural Association.—Associates' lantern night. 8 p.m.

Junior Institution of Engineers (at the Society of Arts, John-street, Adelphi, W.C.).—Paper on "Recent Improvements in Electric Conduit Traction Construction," by Mr. Fitz Roy Roose (L.C.C. Tramways Reconstruction Department). 8 p.m.

THURSDAY, JANUARY 9.

Royal Institution (Christmas Lectures adapted to a Juvenile Auditory).—Sir D. Gill, K.C.B., on "Astronomy, Old and New."—VI. 3 p.m.

Institution of Electrical Engineers.—Mr. J. F. C. Snell on "Cost of Electrical Power for Industrial Purposes." 8 p.m.

Manchester Society of Architects.—Mr. J. R. Wigfull on "The Architects' Use of Photography." 6.45 p.m.

FRIDAY, JANUARY 10.

Architectural Association.—Sir Chas. A. Nicholson, Bart., on "The Kingston Earthquake and Building in Jamaica." 7.30 p.m.

SATURDAY, JANUARY 11.

Junior Institution of Engineers.—Visit at 3 p.m. to the London County Council Tramway Reconstruction Work in South Lambeth-road, and Motor School; Car Sheds and Sub-Station at Clapham.

TO CORRESPONDENTS.

C. & B. (shall have attention).——H. F. C. (ditto).

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications must be authenticated by the name and address of the sender whether for publication or not. No notice can be taken of anonymous communications.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance. The Editor cannot undertake to read and consider articles offered for acceptance unless they are type-written.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

PRICES CURRENT OF MATERIALS.

*** **Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.**

BRICKS, &c.

	£	s.	d.			
Hard Stocks	1	6	0	per 1000	alongside, in river.	
Rough Stocks and Grizzles	1	5	0	,,	,,	,,
Picked Stocks for Facings	2	10	0	,,	delivered.	
Flettons	1	5	6	,,	at railway depôt.	
Red Wire Cuts	1	14	0	,,	,,	,,
Best Fareham Red	3	12	0	,,	,,	,,
Best Red Pressed Ruabon Facing	5	0	0	,,	,,	,,
Best Blue Pressed Staffordshire	3	15	0	,,	,,	,,
Do. Bullnose	4	0	0	,,	,,	,,
Best Stourbridge Fire Bricks	3	14	0	,,	,,	,,
GLAZED BRICKS.						
Best White and Ivory Glazed Stretchers	12	0	0	,,	,,	,,
Headers	11	0	0	,,	,,	,,
Quoins, Bullnose, and Flats	16	0	0	,,	,,	,,
Double Stretchers	19	0	0	,,	,,	,,
Double Headers	16	0	0	,,	,,	,,
One Side and two Ends	19	0	0	,,	,,	,,
Two Sides and one End	20	0	0	,,	,,	,,
Splays, Chamferred, Squints	20	0	0	,,	,,	,
Best Dipped Salt Glazed Stretchers, and Header	12	0	0	,,	,,	,,
Quoins, Bullnose, and Flats	14	0	0	,,	,,	,,
Double Stretchers	15	0	0	,,	,,	,,
Double Headers	14	0	0	,,	,,	,,
One Side and two Ends	15	0	0	,,	,,	,,
Two Sides and one End	15	0	0	,,	,,	,,
Splays, Chamferred, Squints	14	0	0	,,	,,	,,
Second Quality White and Dipped Salt Glazed	2	0	0	,,	less than best.	

	s.	d.	
Thames and Pit Sand	6	6	per yard, delivered.
Thames Ballast	5	0	,, ,,
Best Portland Cement	30	0	per ton, ,,
Best Ground Blue Lias Lime	19	6	,, ,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 12s. 0d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly. dpt.

STONE.

	s.	d.	
BATH STONE—delivered on road waggons, Paddington Depôt	1	6½	per ft. cube.
Do. do. delivered on road waggons, Nine Elms Depôt	1	8¼	,, ,,
PORTLAND STONE (20 ft. average)—Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	1	,, ,,

STONE (*continued*)—

PORTLAND STONE (20 ft average) (*continued*)—

	s.	d.		
White Basebed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf...	2	2½	per ft. cube.	
Ancaster in blocks.....	1	10	per ft. cube, deld. rly. depôt.	
Beer "	1	6	"	"
Greenshill "	1	10	"	"
Darley Dale in blocks ...	2	4	"	"
Red Corsehill " ...	2	2	"	"
Closeburn Red Freestone	2	0	"	"
Red Mansfield "	2	4	"	"

YORK STONE—*Robin Hood Quality.*

Scappled random blocks.	2	10	"	"
6 in. sawn two sides landings to sizes (under 40 ft. super.).....	2	3	per ft. super.,	"
6 in. rubbed two sides ditto, ditto	2	6	"	"
3 in. sawn two sides slabs (random sizes).....	0	11½	per ft. cube,	"
2 in. to 2½ in. sawn one side slabs (random sizes)	0	7½	"	"
1½ in. to 2 in. ditto, ditto	0	6	"	"

HARD YORK—

Scappled random blocks	3	0	"	"
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	8	per ft. super.	"
6 in. rubbed two sides ditto	3	0	"	"
3 in. sawn two sides slabs (random sizes).....	1	2	"	"
2 in. self-faced random flags	0	5	"	"

SLATES.

In. In.	£	s.	d.	
20×10 best blue Bangor	13	2	6	per 1000 of 1200 at r. d.
20×12 " "	13	17	6	" "
20×10 first quality,,	13	0	0	" "
20×12 " "	13	15	0	" "
16×8 " "	7	5	0	" "
20×10 best blue Portmadoc	12	12	6	" "
16×8 " "	6	12	6	
20×10 best Eureka unfading green...	15	17	6	" "
20×12 " ,, ...	18	7	6	" "
18×10 " ,, ...	13	5	0	" "
16×8 ,, ...	10	5	0	" "
20×10 permanent green	11	12	6	" "
18×10 " "	9	12	6	" "
16×8 " "	6	12	6	" "

TILES.

	s.	d.		
Best plain red roofing tiles...	42	0	per 1000 at rly. depôt.	
Hip and Valley tiles ...	3	7	per d z.	"
Best Broseley tiles	50	0	per 1000	"
Do. Ornamental tiles	52	6	"	"
Hip and Valley tiles ...	4	0	per doz.	"
Best Ruab n red, brown, or brindled do. (Edwards) ...	57	6	per 1000	"
Do. Ornamental do.....	60	0	"	"
Hip tiles	4	0	per doz.	"
Valley tiles	3	0	"	"
Best Red or Mottled Staffordshire do. (Peakes).....	51	9	per 1000	"
Do. Ornamental do.	54	6	"	"
Hip tiles	4	1	per doz.	"
Valley tiles.....	3	8	"	"
Best "Rosemary" brand plain tiles	48	0	per 1000	"
Best Ornamental tiles.....	50	0	"	"
Hip tiles	4	0	per doz.	"
Valley tiles.....	3	8	"	"
Best "Hartshill" brand plain tiles, sand-faced	50	0	per 1000	"
Do. pressed...	47	6	"	"
Do. Ornamental do.....	50	0	"	"
Hip tiles	4	0	per doz.	"
Valley tiles.....	3	6	"	"

WOOD.

BUILDING WOOD.	At per standard. £	s.	d.	£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.....	13	10	0	15	0	0
Deals: best 3 by 9	13	0	0	14	0	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11	0	0	12	0	0
Battens: best 2½ by 6 and 3 by 6...	0	10	0	less than 7 in. and 8 in.		
Deals: seconds.....	1	0	0	less than best.		
Battens: seconds.....	0	10	0	"	"	
2 in. by 4 in. and 2 in. by 6 in....	9	0	0	10	0	0
2 in. by 4½ in. and 2 in. by 5 in ..	8	10	0	9	10	0
Foreign Sawn Boards—						
1 in. and 1¼ in. by 7 in.	0	10	0	more than battens.		
¾ in.	1	0	0	"		
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft. 4	10	0	5	0	0
Seconds	4	0	0	4	10	0
Small timber (8 in. to 10 in.) ...	3	12	6	3	15	0
Small timber (6 in. to 8 in.).....	3	0	0	3	10	0
Swed sh balks	2	10	0	3	0	0
Pitch-pine timber (30 ft. average)	4	0	0	4	15	0

JOINERS' WOOD.	At per standard. £	s.	d.	£	s.	d.
White Sea: first yellow deals, 3 in. by 11 in.....	24	0	0	25	0	0
3 in. by 9 in.	22	0	0	23	0	0
Battens, 2½ in. and 3 in. by 7 in.	16	10	0	18	0	0
Second yellow deals, 3 in. by 1 in.	18	10	0	20	0	0
" " 3 in. by 9 in.	17	10	0	19	0	0
Battens, 2½ in. and 3 in. by 7 in.	13	10	0	14	10	0
Third yellow deals, 3 in. by 11 in. and 9 in.	13	10	0	15	0	0
Battens, 2½ in. and 3 in. by 7 in.	11	0	0	12	0	0
Petersburg first yellow deals, 3 in. by 11 in.....	21	0	0	22	10	0
Do. 3 in. by 9 in.	18	0	0	19	10	0
Battens	13	10	0	15	0	0
Second yellow deals, 3 in. by 1 in.	16	0	0	17	0	0
Do. 3 in. by 9 in.	14	10	0	16	0	0
Battens	11	0	0	12	10	0

WOOD (*continued*).

JOINERS' WOOD (*continued*)—	At per standard. £	s.	d.	£	s.	d.
Third yellow deals, 3 in. by 11 in.	13	0	0	14	0	0
Do. 3 in. by 9 in	12	10	0	14	0	0
Battens	10	0	0	11	0	0
White Sea and Petersburg—						
First white deals, 3 in. by 11 in.	14	10	0	15	10	0
" " 3 in. by 9 in.	13	10	0	14	10	0
Battens.....	11	0	0	12	0	0
Second white deals, 3in. by 11 in.	13	10	0	14	10	0
" " 3 in. by 9 in.	12	10	0	13	10	0
" " battens	10	0	0	11	0	0
Pitch-pine: deals.....	18	0	0	21	0	0
Under 2 in. thick extra	0	10	0	1	0	0
Yellow pine—First, regular sizes	44	0	0	upwards.		
Oddments	32	0	0	"		
Seconds, regular sizes	33	0	0	"		
Yellow Pine oddments	28	0	0	"		
Kauri Pine—Planks, per ft. cube..	0	3	6	0	5	0
Danzig and Stettin Oak Logs—						
Large, per ft. cube	0	3	0	0	3	6
Small " "	0	2	6	0	2	9
Wainscot Oak Logs, per ft. cube..	0	5	6	0	6	0
Dry Wainscot Oak, par ft. sup. as inch	0	0	8½	0	0	9½
¾ in. do. do.	0	0	7	—		
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch...	0	0	9	0	1	0
Selected, Figury, per ft. super. as inch	0	1	6	0	2	6
Dry Walnut, American, per ft. super. as inch	0	0		0	1	0
Teak, per load	17	0	0	22	0	0
American Whitewood Planks, per ft. cube.....	0	4	0	5	0	

Prepared Flooring, etc.—	Per square.					
1 in. by 7 in. yellow, planed and shot	0	13	6	0	17	6
1 in. by 7 in. yellow, planed and matched	0	14	0	0	18	0
1¼ in. by 7 in. yellow, planed and matched	0	16	0	1	0	0
1 in. by 7 in. white, planed and shot	0	12	0	0	14	6
1 in. by 7 in. white, planed and matched	0	12	6	0	15	0
1¼ in. by 7 in. white, planed and matched	0	15	0	0	16	6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0	11	0	0	13	6
1 in. by 7 in. " "	0	14	0	0	18	0
¾ in. by 7 in. white " "	0	10	0	0	11	6
1 in. by 7 in. " "	0	12	9	0	15	0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £	s.	d.	£	s.	d.
Rolled Steel Joists, ordinary sections	7	15	0	8	5	0
Compound Girders, ordinary sections	10	0	0	11	0	0
Steel Compound Stanchions	12	10	0	13	10	0
Angles, Tees, and Channels, ordinary sections	9	15	0	10	15	0
Flitch Plates	9	15	0	10	15	0
Cast Iron Columns and Stanchions including ordinary patterns.....	8	0	0	9	0	0

METALS.

IRON—	Per ton, in London. £	s.	d.	£	s.	d.
Common Bars	8	10	0	9	0	0
Staffordshire Crown Bars, good merchant quality	9	5	0	9	15	0
Staffordshire "Marked Bars" ...	11	0	0	—		
Mild Steel Bars	9	10	0	9	15	0
Hoop Iron, basis price	9	15	0	10	0	0
" " Galvanised	17	10	0	—		

(*And upwards, according to size and gauge.)

Sheet Iron Black—						
Ordinary sizes to 20 g.	10	0	0	—		
" " 24 g.	11	0	0	—		
" " 26 g.	12	10	0	—		
Sheet Iron, Galvanised, flat, ordinary quality—						
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.....	16	0	0	—		
Ordinary sizes to 22 g. and 24 g.	16	10	0	—		
" " 26 g.	17	0	0	—		
Sheet Iron, Galvanised, flat, best quality—						
Ordinary sizes to 20 g.	19	0	0	—		
" " 22 g. and 24 g.	19	10	0	—		
" " 26 g.	21	0	0	—		
Galvanised Corrugated Sheets—						
Ordinary sizes, 6 ft. to 8 ft. 20 g.	16	0	0	—		
" " 22 g. and 24 g.	16	5	0	—		
" " 26 g.	17	10	0	—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	13	0	0	—		
Best Soft Steel Sheets, 22 g. & 24 g.	14	0	0	—		
" " " 26 g.	16	0	0	—		
Cut Nails, 3 in. to 6 in.	10	15	0	11	5	0

(Under 3 in., usual trade extras.)

LEAD, &c.

	Per ton, in London. £	s.	d.	£	s.	d.
LEAD—Sheet, English, 3 lb. and up.	17	10	0	—		
Pipe in coils	18	0	0	—		
Soil pipe	20	10	0	—		
Compo pipe.....	21	10	0	—		
ZINC—Sheet—						
Vieille Montague .....ton	29	0	0	—		
Silesian.....	28	15	0	—		
COPPER—						
Strong Sheet.....per lb.	0	1	2	—		
Thin " ..... "	0	1	3	—		
Copper nails ..... "	0	1	1	—		
BRASS—						
Strong Sheet ..... "	0	1	0	—		
Thin..... "	0	1	1	—		
TIN—English Ingots..... "	0	1	5	—		
SOLDER—Plumbers' ..... "	0	0	8	—		
Tinmen's ..... "	0	0	10	—		
Blowpipe ..... "	0	1	0	—		

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

15 oz. thirds.....	2½d.	per ft.	delivered.
" fourths.....	1¾d.	"	"
21 oz. thirds	3¼d.	"	"
" fourths.....	2¼d.	"	"
26 oz thirds	4¼d.	"	"
" fourths	3¼d.	"	"
32 oz. thirds	5d.	"	"
" fourths.....	4¼d.	"	"
Fluted Sheet, 15 oz.....	3¼d.	"	"
" 21 oz.	4¼d.	"	"

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

⅛ Hartley's	2¼d.	per ft.	de'ivered.
¼ "	2¼d.	"	"
½ "	3d.	"	"
Figured and Oxford Rolled "Oceanic" Glass, white	4d.	"	"
Do. " tinted ...	5½d.	"	"

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	1
" " " in barrels	"	0	2	2
" " " in drums	"	0	2	3
Boiled " " in pipes	"	0	2	2
" " " in barrels	"	0	2	3
" " " in drums	"	0	2	4
Turpentine in barrels	"	0	3	0
" in drums	"	0	3	2
Genuine Ground English White Lead	per ton	26	0	0
Red Lead, Dry	"	25	0	0
Best Linseed Oil Putty	per cwt.	0	7	0
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon £	s	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak.....	0	10	0
Superfine Hard-drying Oak, for seats of Churches.....	0	14	0
Fine Elastic Carriage	0	12	6
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	16	0
Finest Pale Durable Copal	0	18	0
Extra Pale French Oil	1	1	0
Eggshell Flatting Varnish	0	18	0
White Copal Enamel.....	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size.....	0	10	6
Best Black Japan	0	16	0
Oak and Mahogany Stain.....	0	9	0
Brunswick Black	0	8	0
Berlin Black	0	16	0
Knotting	0	10	9
French and Brush Polish.....	0	10	6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ACTON.—For the erection of additions to accommodate 176 scholars at the Central Council School, Shakespeare-road, Acton, W., for the Education Committee of the Urban District Council. Messrs. E. C. P. & H. Monson, architects, 182, High-street, Acton, W. Quantities by Mr. F. T. W. Miller, 8, Dartmouth-street, S.W.:—

Barrett, Smith, & Co.	£2,803	0	0
Spencer, Santo, & Co.	2,652	10	0
F. Bissley	2,520	0	0
Mason & Cooper	2,460	0	0
G. H. Gibson..	2,327	0	0
Smith & Co. ..	2,266	0	0
Willcock & Co.	2,250	0	0
E. F. McCarthy	2,237	0	0
Galbraith Bros.	2,220	0	0
H. C. Clifton ..	2,200	0	0
Dorey & Co. ..	2,190	0	0
G. Bollom	2,188	0	0
Vigor & Co. ..	£2,182	0	0
B. E. Nightingale.....	2,180	0	0
Abbot & Charlton	2,171	10	0
W. J. Roberts .	2,163	1	3
F. G. Minter ..	2,149	0	0
W. J. Dickens .	2,069	0	0
F. & E. Davey	2,053	0	0
L.F.Lamplough	2,051	0	0
Barker & Co...	2,047	0	0
Hyde & Co., Norwood Junction* ..	1,966	0	0

BAKEWELL.—For erecting new closets, coal-places, and urinal at the Workhouse, for the Guardians:—

W. J. Eyre	£123	19	6
Cox, Wilson, & Sons, Ashford, near Bakewell*	110	0	0

BELVEDERE.—For the installation of electric light at forty-eight municipal cottages, Brook-street, for Erith Urban District Council. Specification by Mr. Geo. E. Heath, Electrical Engineer:—

Venables & Co.	£320	0	0
J. Holman & Co., Ltd.	320	0	0
L. Roman	320	0	0
A. E. Belston ..	307	13	0
Bell Bros. & Co. (London), Ltd.	288	0	0
F. V. Slatter ..	283	10	0
S. Newton & Co.	272	14	0
W. G. Cannon & Sons, Ltd....	247	4	0
Electrical Co., Ltd.	243	8	0
Reliance Electrical Co.	234	0	0
G. Weston & Sons	228	8	0
Strange & Sons, Ltd.	220	15	0
G. T. Stares....	£218	8	0
L. W. Drake ..	209	7	8
H. Hooper & Co.	197	0	0
Walsall Electrical Co.	195	0	0
G. N. Haden & Sons	195	0	0
C. Pullan	187	4	0
Woodville Electric Co., 21, Hengist-road, Northumberland Heath*..	168	0	0
A. F. McLean	165	0	0
J. Cock & Co. ..	165	0	0
J. T. Jarvis & Sons	153	10	0
W. F. Cook	150	0	0

BIRMINGHAM.—For iron escape staircases at the new able-bodied block in course of erection at the Birmingham Workhouse, for the Guardians. Messrs. W. H. Ward, architects, Paradise-street, Birmingham:—

Hill & Smith..	£344 0 0	Haward Bros.	£201 15 0
J. & A. Law..	320 0 0	J. Ewell	199 0 0
Hayward Bros. & Eckstein ..	298 0 0	Herring & Son..	190 0 0
General Iron Foundry Co..	290 0 0	Griffin Iron-works Co., Ltd.	175 0 0
G. Wright, Ltd.	251 14 0	Hassall & Singleton, Ltd., Birmingham* ..	153 16 6
Falkirk Iron Co.	214 0 0		
Lion Foundry Co.	208 4 0		

[Architect's estimate, £150.]

BRADFORD.—For alterations to drying-closets at the Union Hospital Laundry, for the Guardians. Mr. F. Holland, engineer and architect, 11, Parkinson's-chambers, Hustlergate, Bradford:—

Brightside Foundry and Engineering Co., Ltd., Wicker Works, Sheffield* £130

FAKENHAM.—For erecting the Buckenham Memorial Church, for the Trustees. Mr. A. F. Scott, architect and surveyor, 24, Castle-meadow, Norwich. Quantities by architect:—

H. F. Spalding	£2,333 11 4	F. Giddings..	£2,010 0 0
J. Crocknell ..	2,239 0 0	J. Needs	1,996 0 0
J. W. Neale ..	2,233 0 0	R. Shanks....	1,940 0 0
T. H. Blyth ..	2,072 18 6	H. W. Barnes	1,915 0 0
I. W. Fisher..	2,050 0 0	C. Tuthill, Fakenham*	1,885 0 0
W. G. Porter	2,045 0 0	Clark & Sons	1,855 0 0
Spencer, Santo, & Co.....	2,040 0 0		

HANDSWORTH.—For heating cookery and laundry extensions, Wattville-street Council Schools and Laboratory and woodwork shops, etc., in Rookery-road Council School, for the Urban District Council. Messrs. Wood & Kendrick, architects, West Bromwich:—

—	Wattville-street.	Rookery-road.
	£ s. d.	£ s. d. £ s. d.
H. Paragon*	41 10 0	35 0 0 + 37 0 0
Parker & Windhus	87 0 0	71 17 0 + 72 3 0
T. Taylor*	49 0 0	45 13 6 + 39 17 6
J. Stock.....	65 0 0	65 0 0 + 55 0 0
R. Alger & Sons ..	81 0 0	71 0 0 + 45 0 0
Haden & Sons	98 0 0	78 0 0 + 95 0 0
Ashville & Nesbitt, Trowbridge*	60 0 0	50 0 0 + 35 0 0
Dining & Cook, Newcastle*	56 17 6	49 17 6 + 39 15 0
R. Dawson & Co..	66 0 0	56 0 0 + 42 0 0
B. Parker	68 10 0	59 10 0 + 41 10 0
Brightside Co.	67 0 0	61 0 0 + 49 0 0
Dargue, Griffiths, & Co.	82 5 0	64 10 0 + 45 10 0
White.....	114 0 0	115 0 0 + 64 16 0
T. F. Smith & Co...	73 10 0	76 10 0 + 51 10 0
J. Jackson & Co. ..	63 0 0	50 0 0 + 42 0 0

HUNSTANTON.—For alterations and additions, Hunstanton School, Norfolk. Mr. Herbert J. Green, Architect and Diocesan Surveyor, 31, Castle Meadow, Norwich:—

Gutteridge & Son.....	£2,273 0 0
Spencer, Santo, & Co.....	2,254 0 5
F. Southgate	2,133 17 3
Dye & Allen.....	2,131 0 0
Clarke & Son.....	1,977 0 0
G. W. Heath	1,972 0 0
R. Shanks, Chatteris†	1,795 0 0

INVERURIE (Scotland).—For erecting a higher-grade school, for the School Board. Mr. G. Gray, architect, Inverurie. Quantities by architect:—

Mason: G. Paul, Inverurie*	£1,614 12
Carpenter: W. Buchan, Inverurie*	819 0
Plumbers: J. Laing & Sons, Inverurie*..	613 0
Plasterers: Rodger & Baxter, Aberdeen*	273 4
Slaters: C. Macdonald & Sons, Dyce*....	161 10
Heating: J. Laing & Sons, Inverurie*....	129 12
Painters: G. Donald & Sons, Aberdeen*..	57 0

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KETTERINGHAM.—For new roofs to nave and chancel, and other works, Ketteringham Church, Norfolk. Mr. Herbert J. Green, Architect and Diocesan Surveyor:—

J. Youngs & Son ..	£1,569	J. S. Smith, Norwich†	£1,212
R. Shanks	1,440		

KILKENNY.—For erecting a public library, for the Corporation. Messrs. E. C. Lowrey & Son, 62, Dame-street, Dublin, and Messrs. Tyars & Jago, A.R.I.B.A., architects, 10, John-street, Adelphi, London:—

J. J. Hearne & Son	£2,994 12 0	T. Walsh	£2,469 0 0
Collen Bros. .	2,750 0 0	W. K. Cleeve & Son	2,442 19 11
P. Nolan	2,550 0 0		

LICHFIELD.—For alterations to the house and premises adjoining Doctor Johnson's house in Bread-market-street, for the City Council:—

E. J. Chattle, Lichfield* £24 10

LONDON.—For the erection of an Indian pavilion, for the Executive and Finance Sub-Committee, Indian Section Franco-British Exhibition, 1908. Mr. T. E. Hardy, architect, 7, Great Chapel-street, Westminster, S.W.:—

B. E. Nightingale..	£5,900	Langdale, Hallett, & Co.	£5,100
G. Trollope & Sons and Colls & Sons	5,750	Humphreys, Ltd*..	4,717
Higgs & Hill, Ltd..	5,679		

LONDON.—For erecting fire-escape staircases at the additional workhouse, Hazelville-road, Hornsey Rise, for St. Leonard, Shoreditch, Guardians. Mr. F. J. Smith, F.R.I.B.A., Parliament-mansions, Victoria-street, S.W.:—

H. and G. Measures, Pitlake, Croydon†.... £358 10

SALISBURY.—For construction of road and sewers, etc., on the Belle View Building Estate, Endless-street, for the Trustees of the late R. H. Rigden. Mr. A. C. Bothams, A.M.Inst.C.E., architect and surveyor, Salisbury:—

Grounds & Newton	£500 0 0	Pearce	£410 0 0
Moore & Son..	463 13 10	Wort & Way ..	399 0 0
Harris Bros. ..	435 0 0	J. Douglas, Southampton*	392 0 0

STAFFORD.—For Rowley-grove street improvement, for the Rural District Council. Mr. R. M. Evans, Surveyor, Bank House, Stafford. Quantities by Surveyor:—

H. Lovatt, Ltd.	£1,280 0 4	C. J. Nevitt, Ltd., Stafford*	£827 2 3
G. Trentham ..	906 2 9		
F. Espley & Sons	856 2 8		

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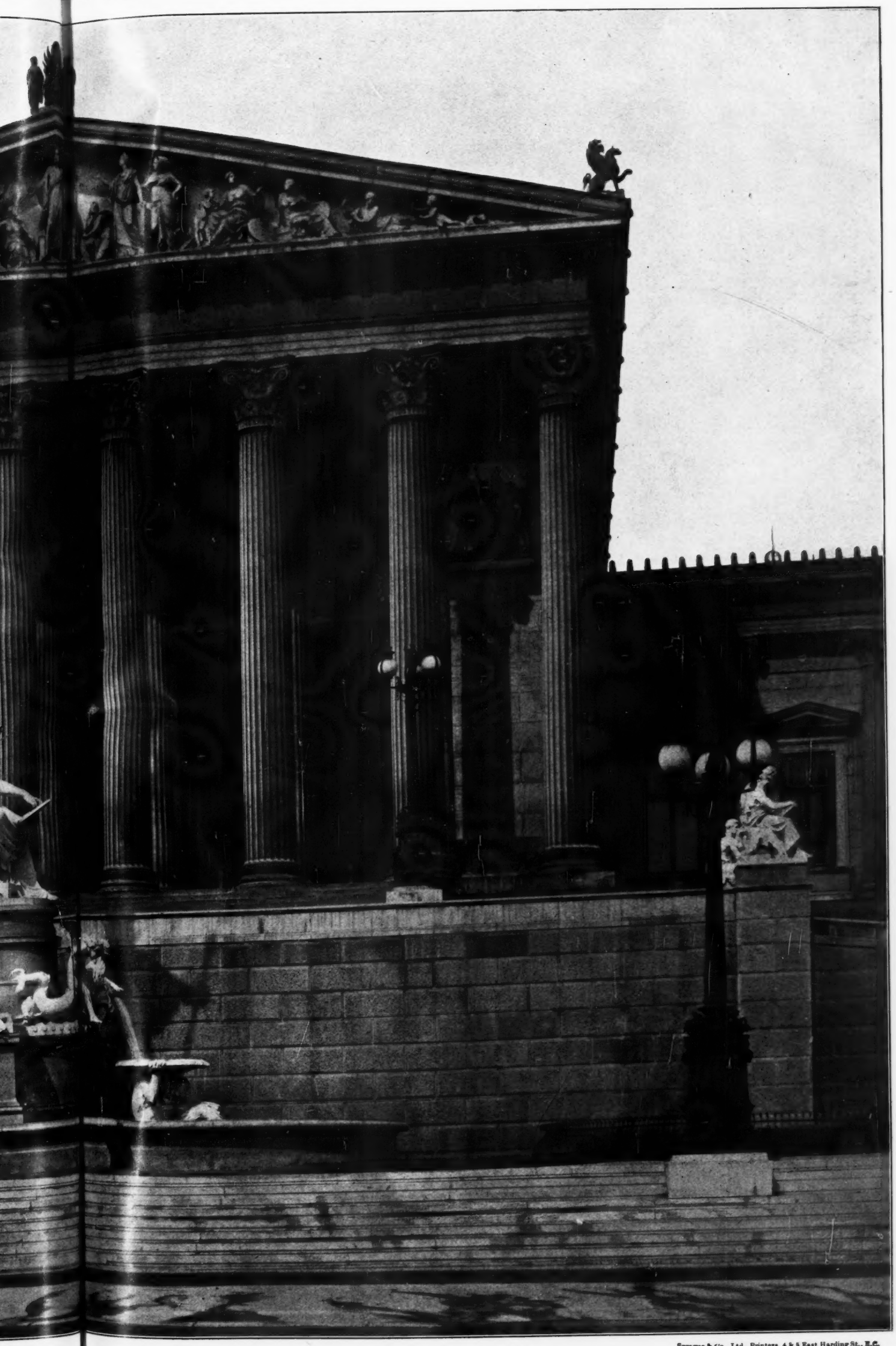

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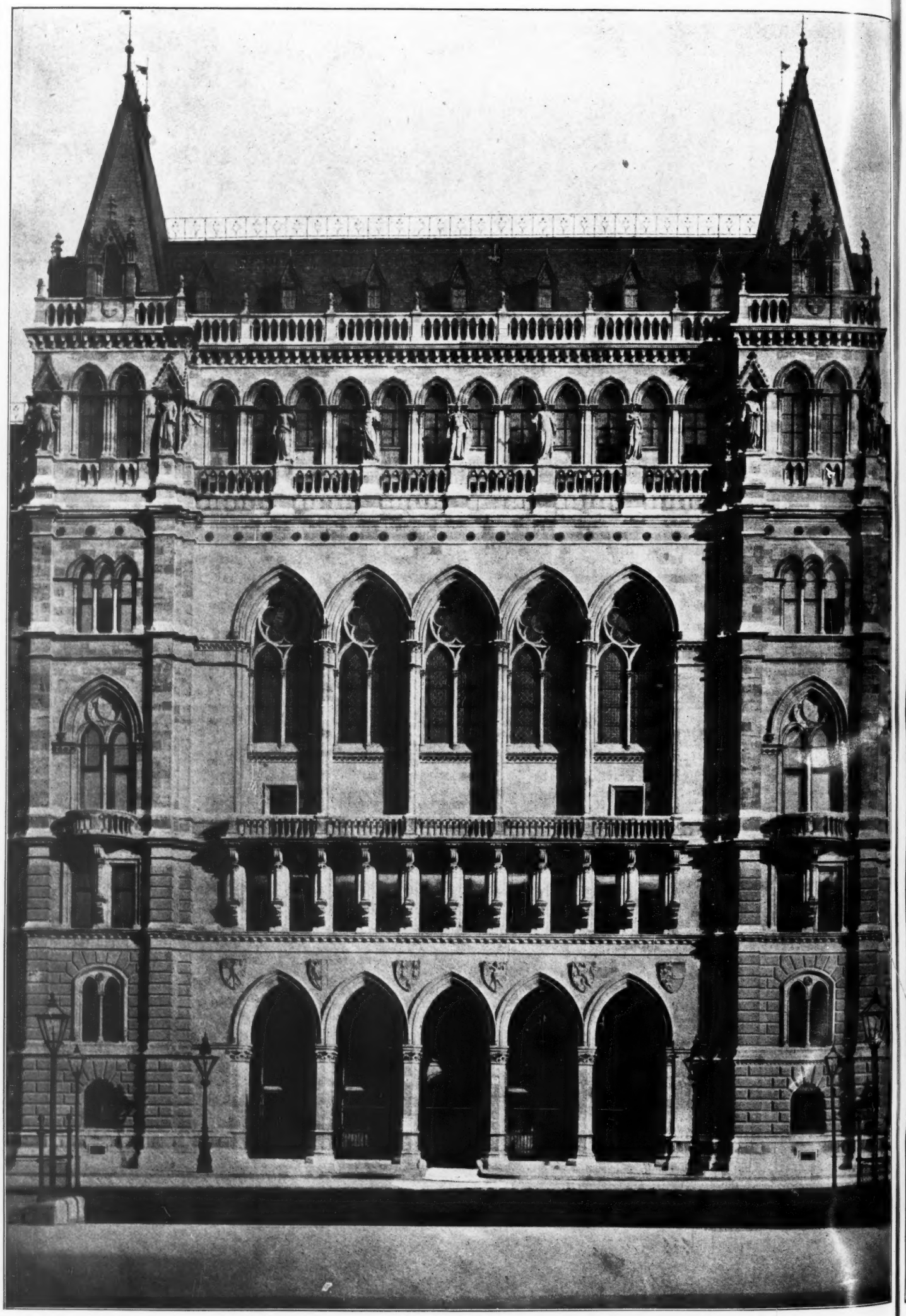
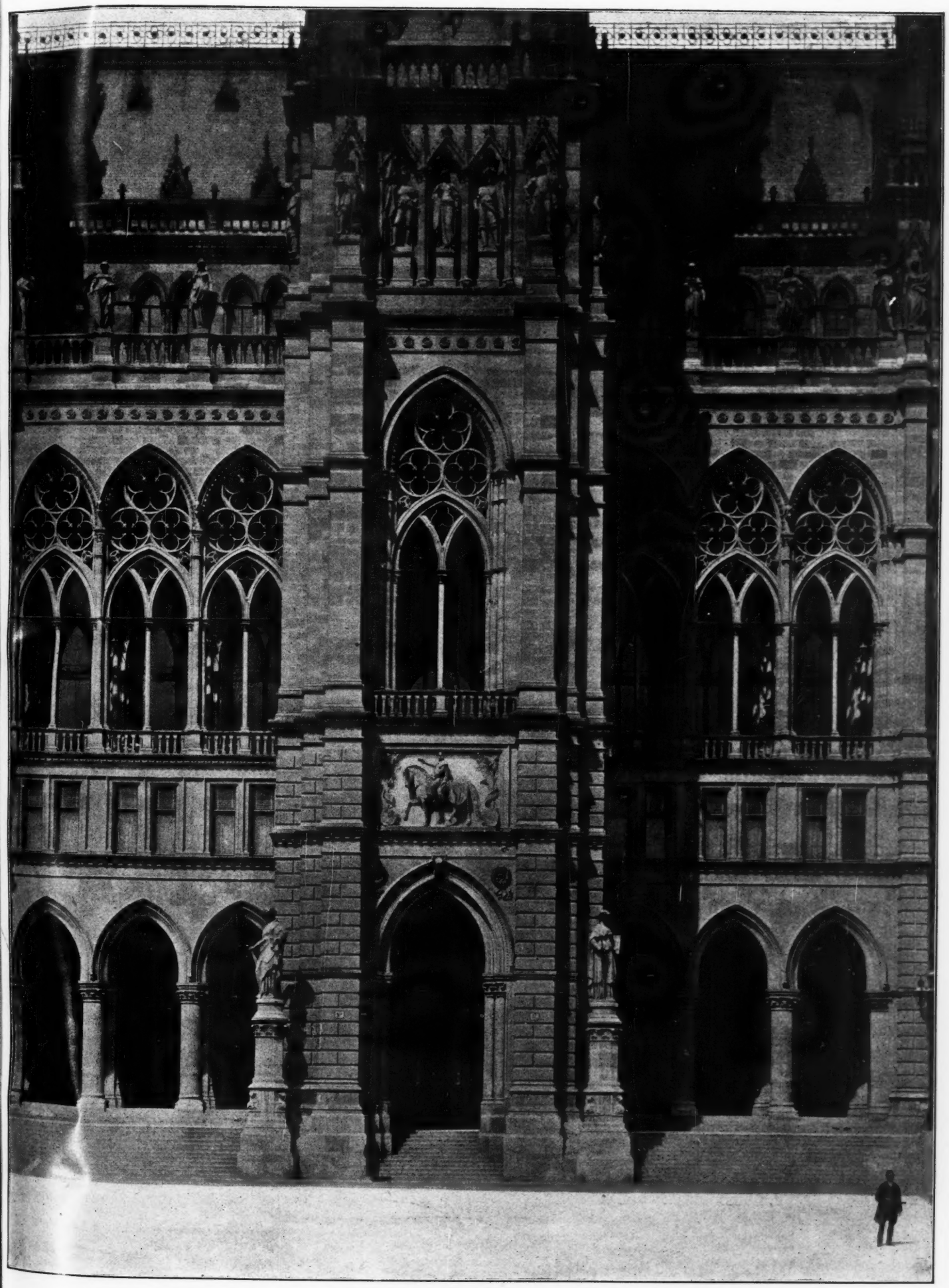
HE LATE BARON HANSEN *(Royal Gold Medallist, R.I.B.A.)*, ARCHITECT.



SIDE ELEVATION.

VIENNA ARCHITECTURE

THE TOWN HALL.—The late Baron von Schmidt (*Royal*



PART OF FRONT ELEVATION.

VIENNA ARCHITECTURE.

BARON VON SCHMIDT *(Royal Gold Medallist, R.I.B.A.)*, ARCHITECT.

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VIENNA ARCHITECTURE.

CATHEDRAL CHURCH OF ST. STEPHEN.

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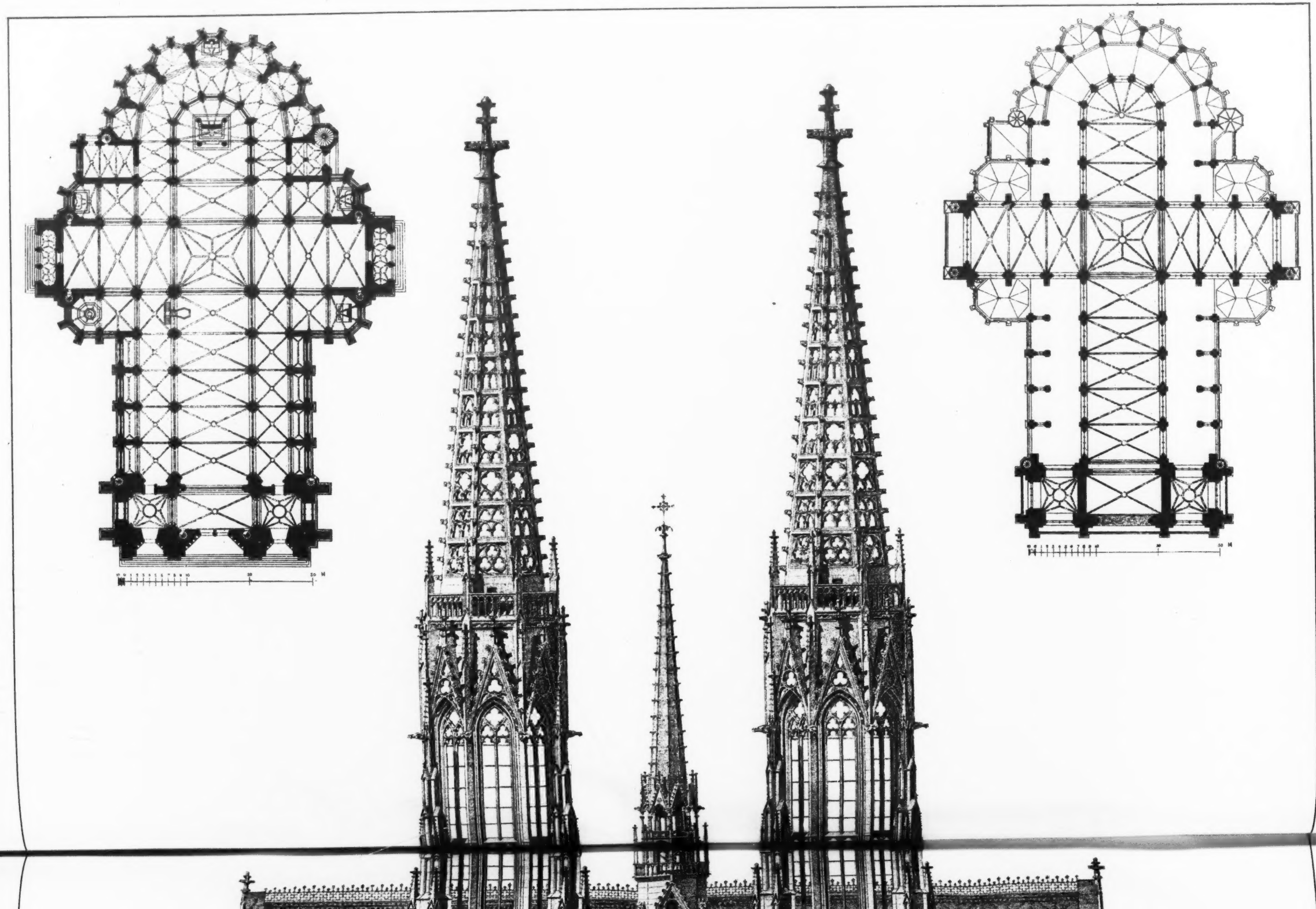
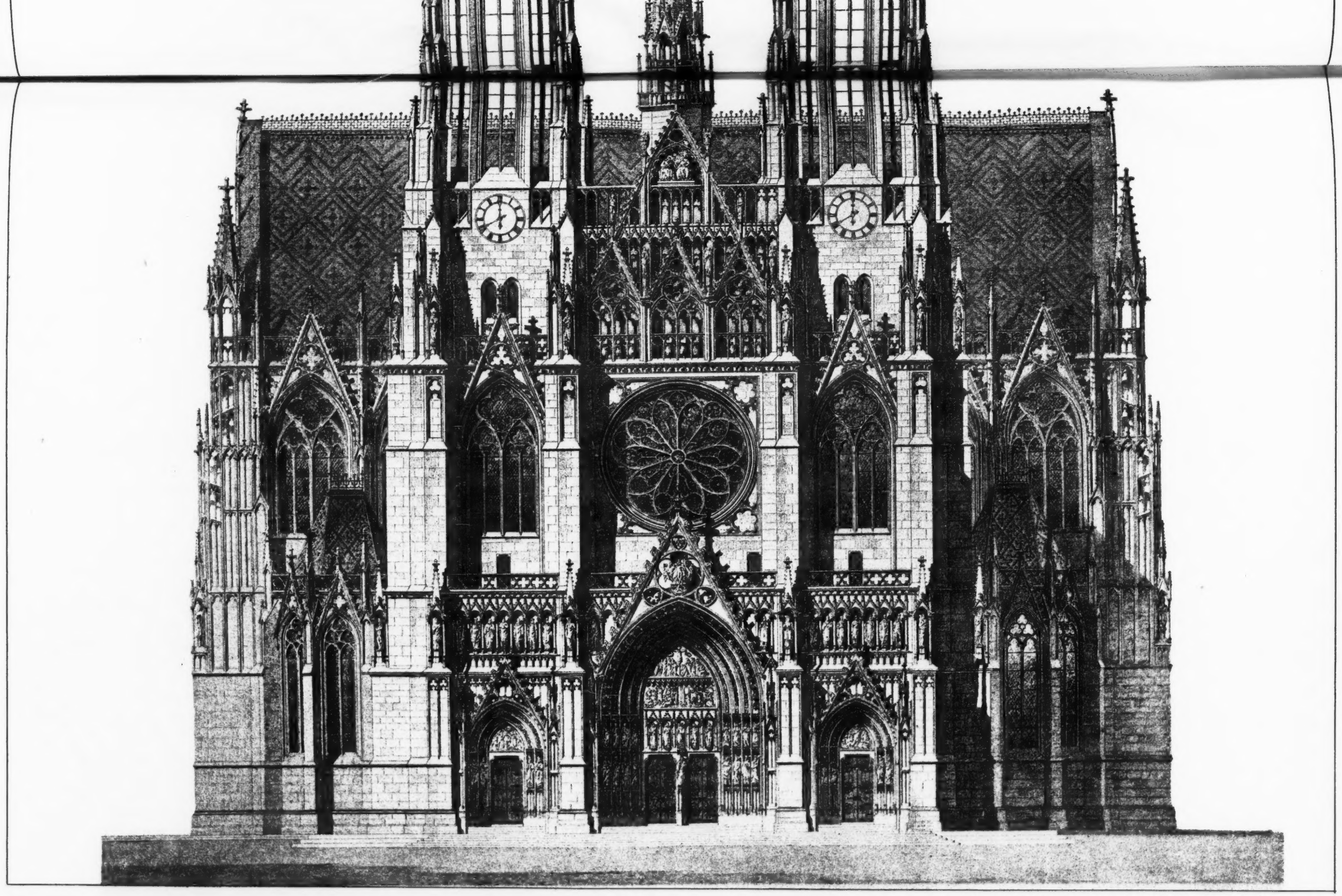
VIENNA ARCHITECTURE.

THE TOWN HALL.—The late Baron von Schmidt *(Royal Gold Medallist, R.I.B.A.)*, Architect.





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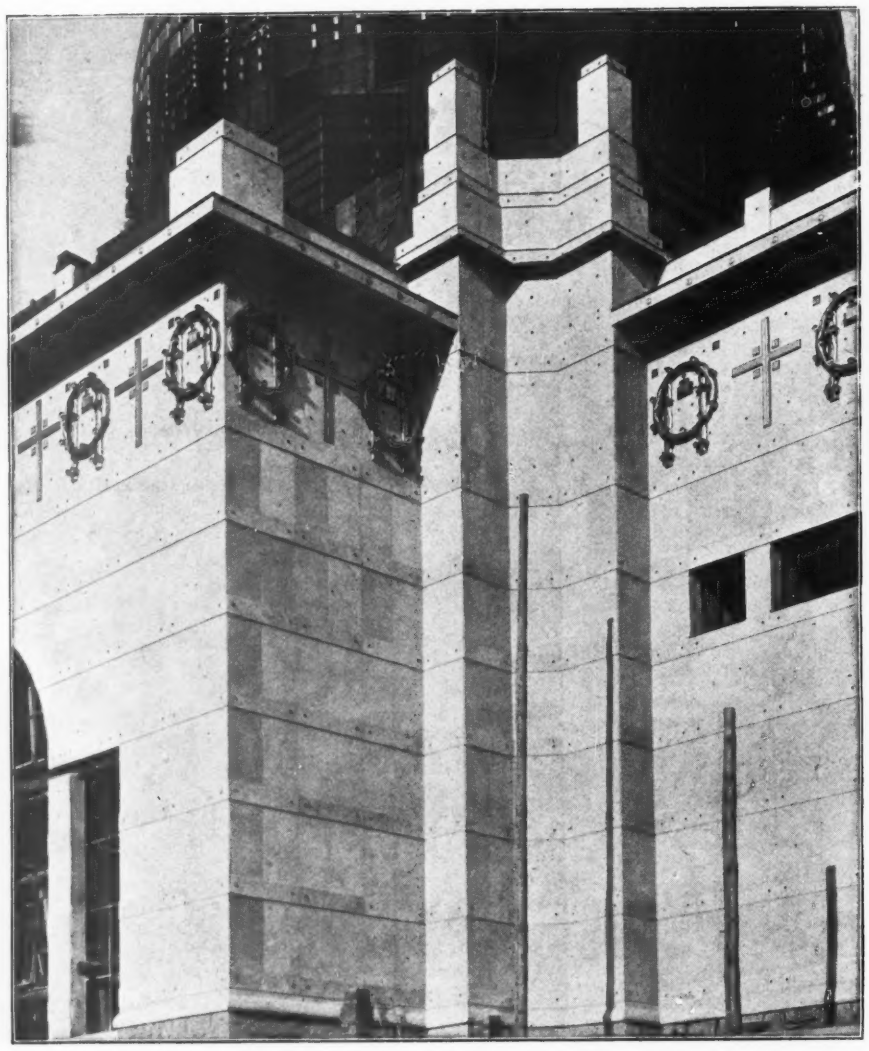
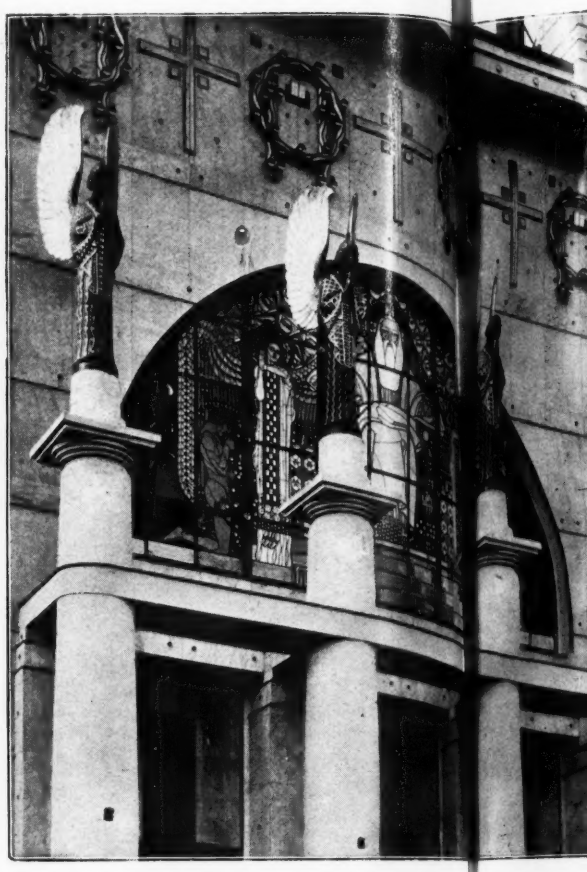
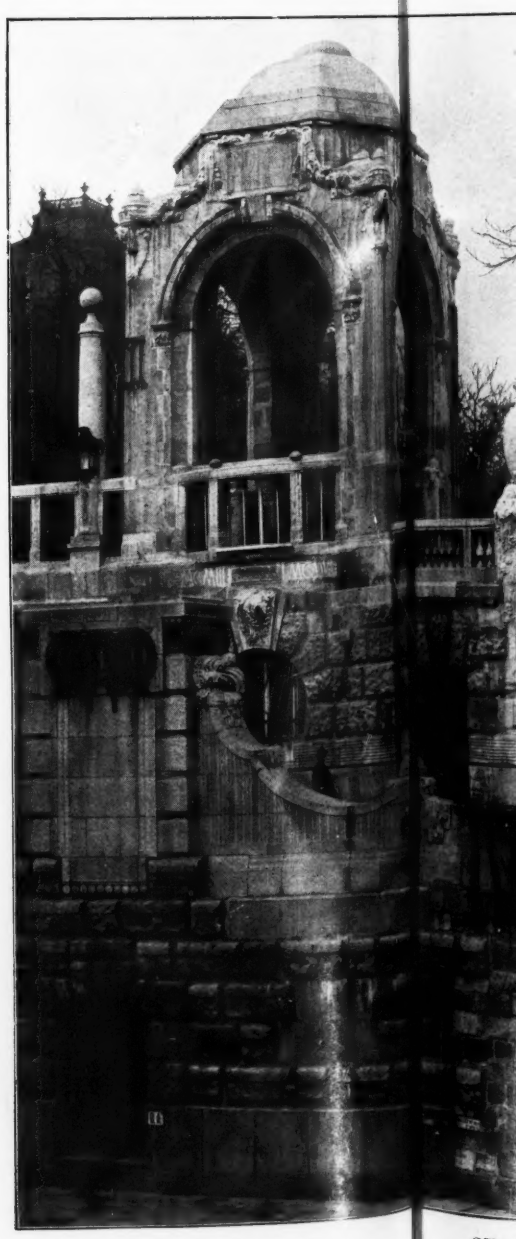
VIENNA ARCHITECTURE.

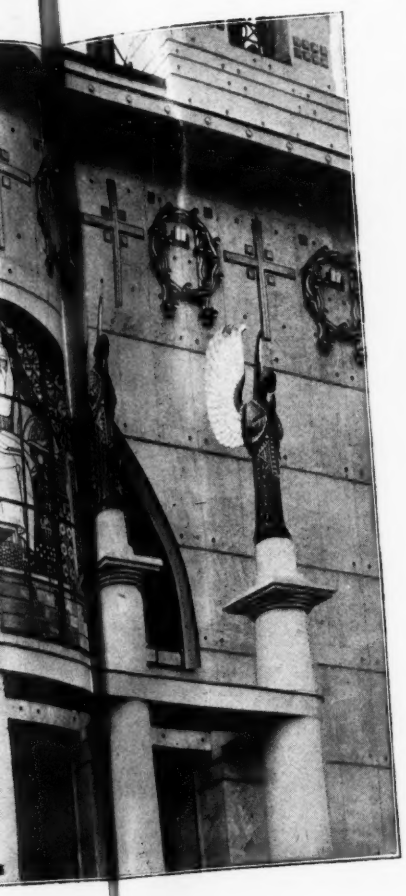
THE VOTIVE CHURCH.—The late Baron von Ferstel *(Royal Gold Medallist, R.I.B.A.)*, Architect.

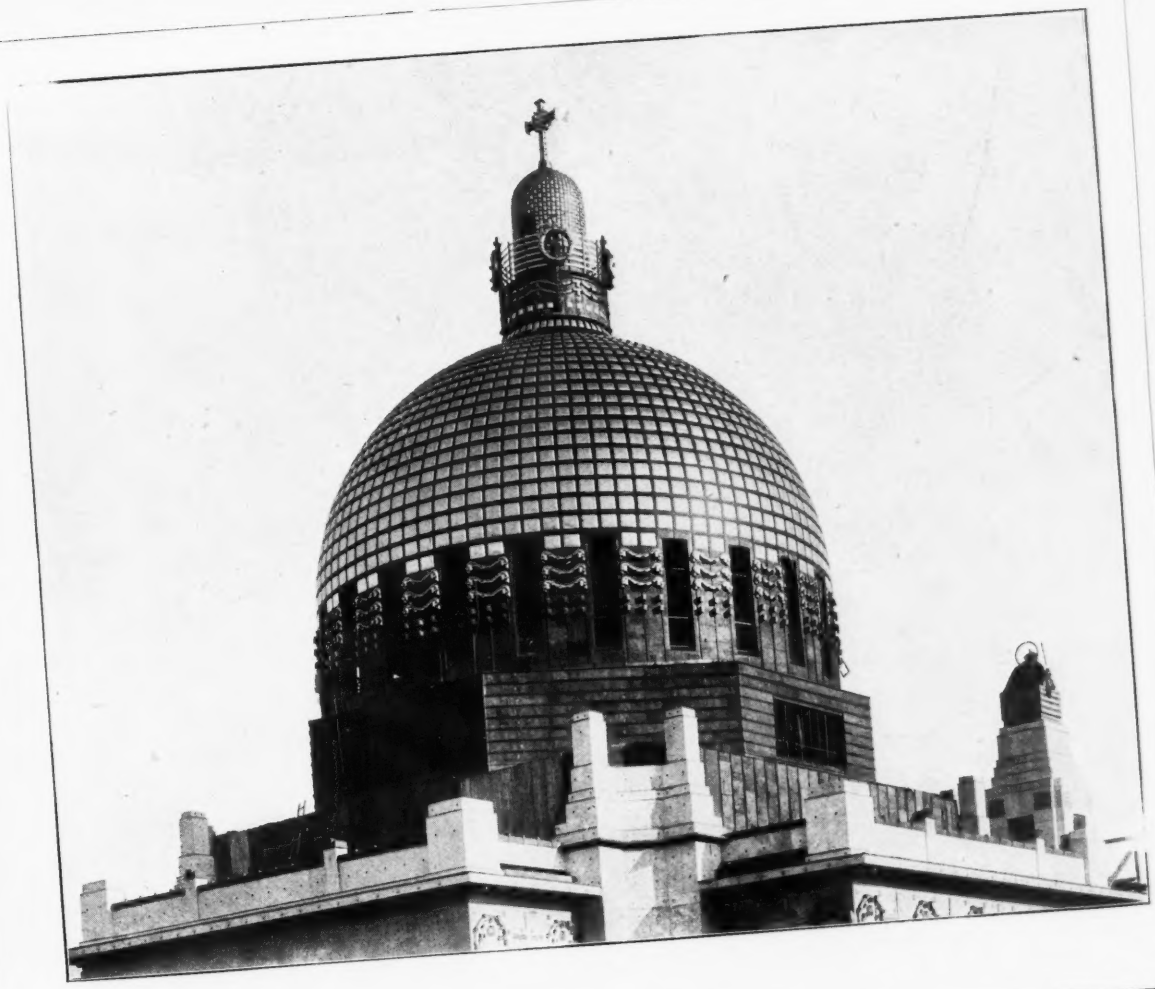






CHURCH AND POST OFFICE.—Professor Otto Wagner, Architect.





STADT PARK: TERRACES AND ENTRANCE.—PROFESSOR OHMANN, ARCHITECT.

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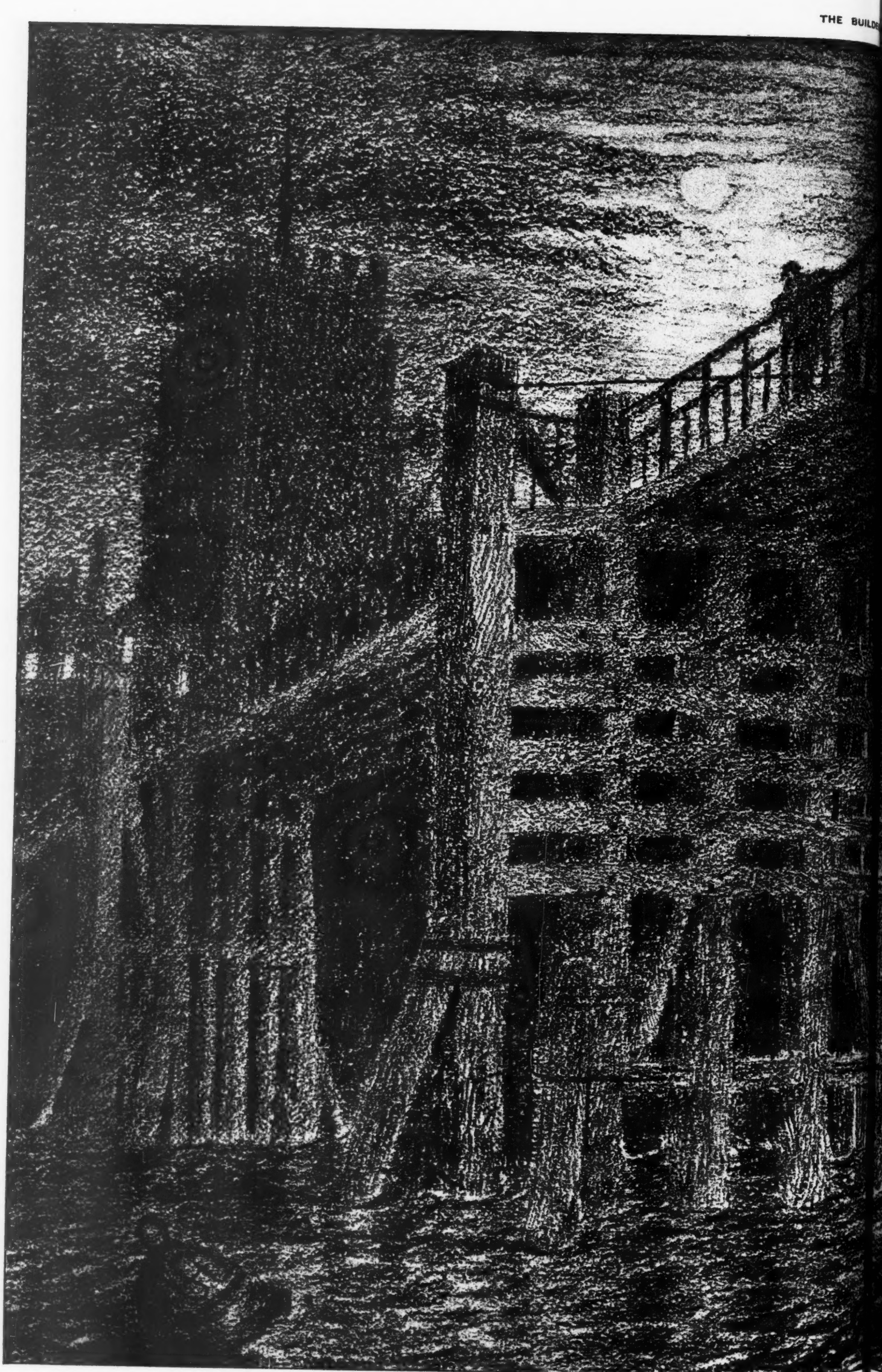
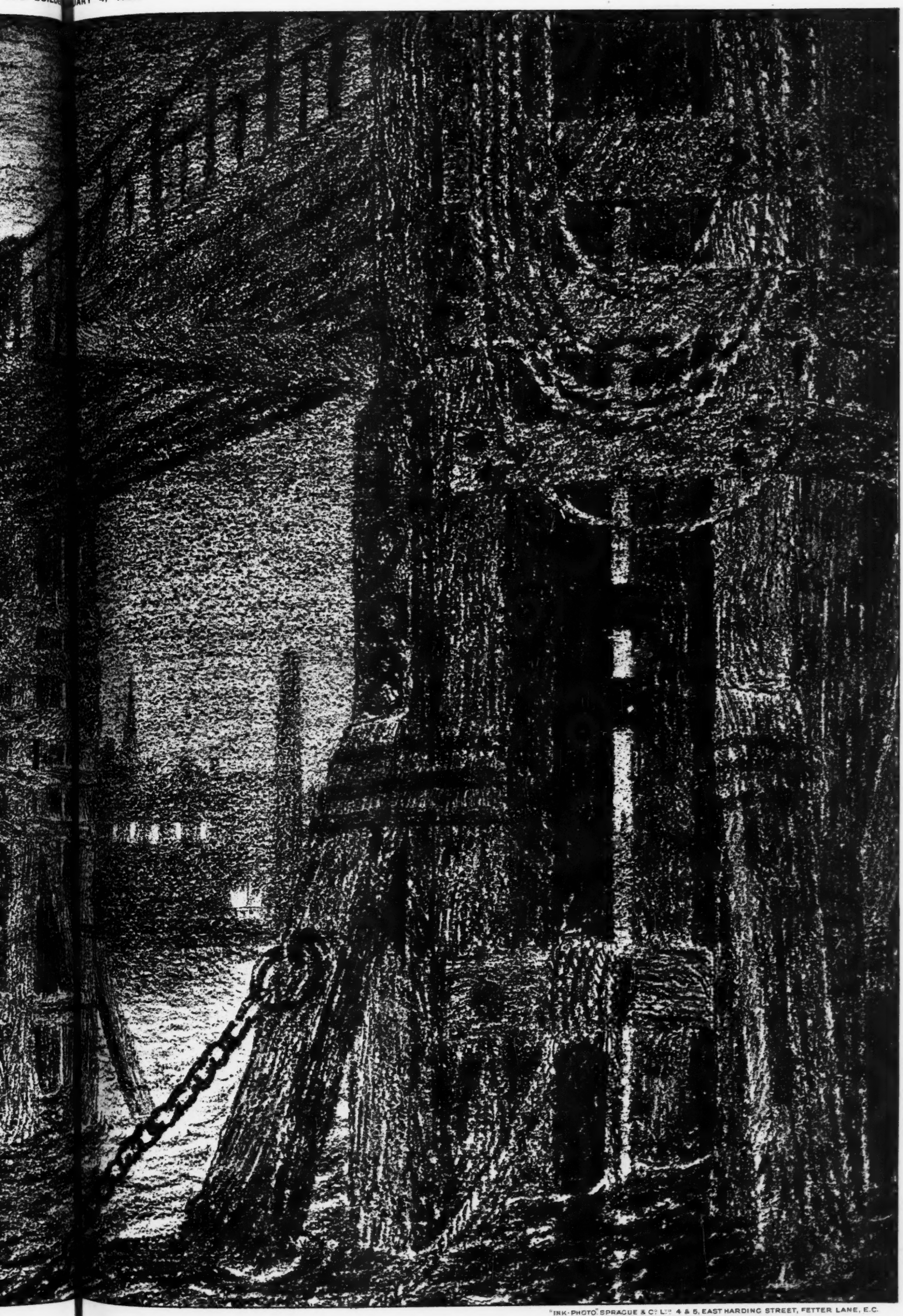


A NEW YEAR'S CARD: WITH BEST WISHES TO READERS.—

(See Longfellow's "The Bridge



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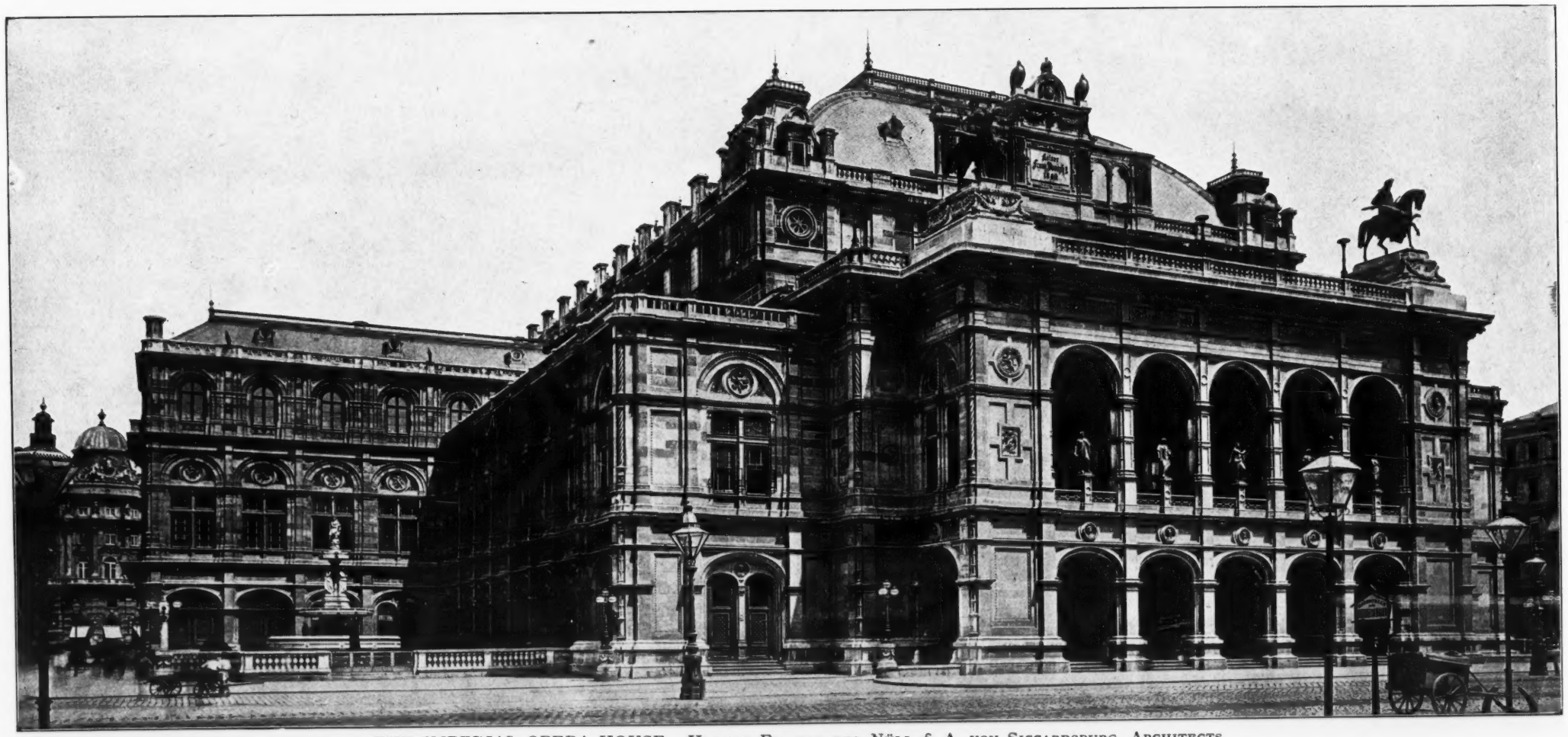
WISHES TO [illegible] READERS.—FROM A CHARCOAL DRAWING BY THE EDITOR

(See Longfellow's [illegible], "The Bridge.")

NEW WING OF THE IMPERIAL HOFBURG.—The late Professor Semper, Architect.

THE IMPERIAL ART HISTORY MUSEUM.—The late Professor Semper & Herr von Hasenauer, Architects.



THE IMPERIAL OPERA HOUSE.—Herren Ed. van der Nüll & A. von Siccardsburg, Architects.

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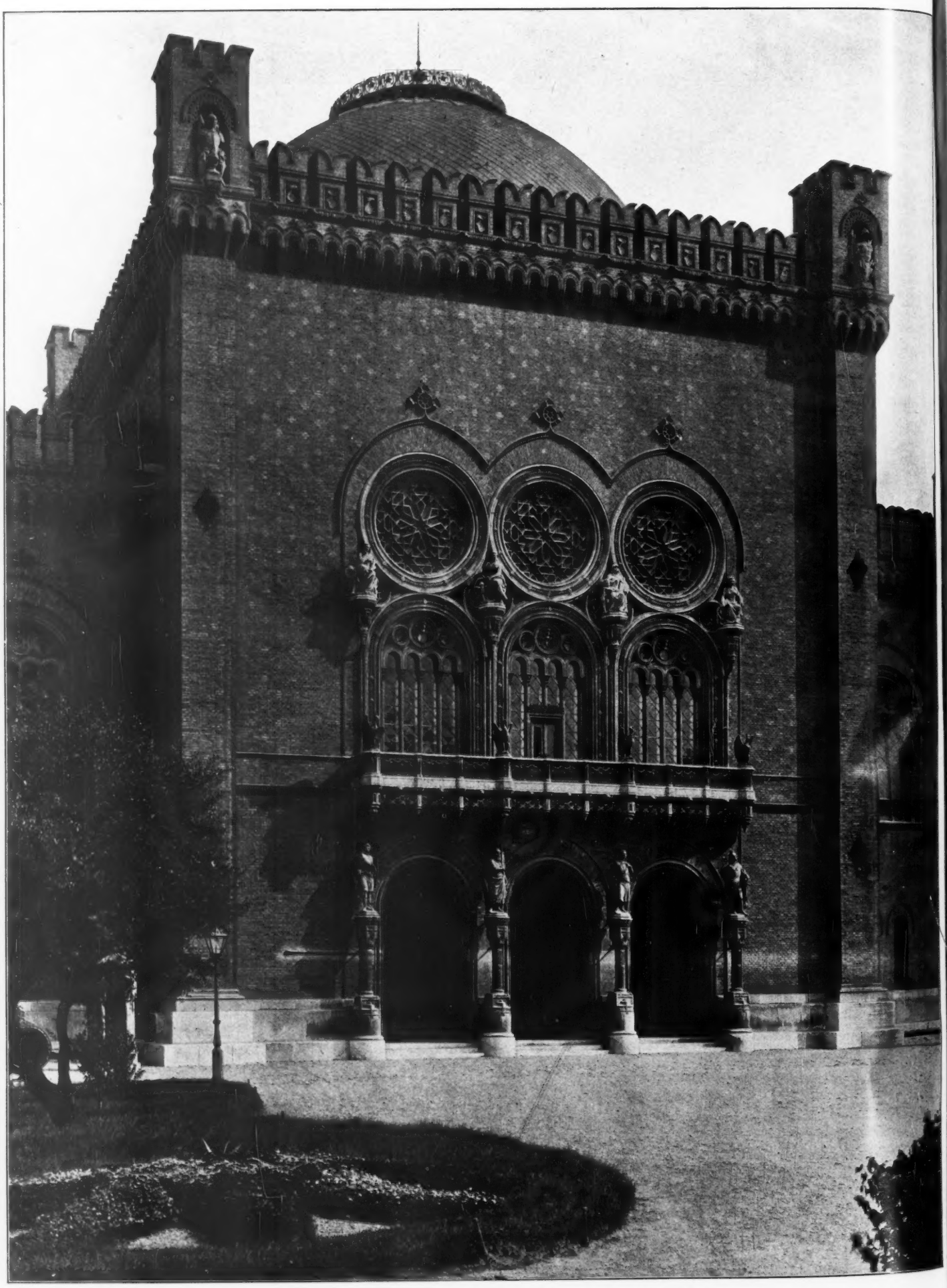
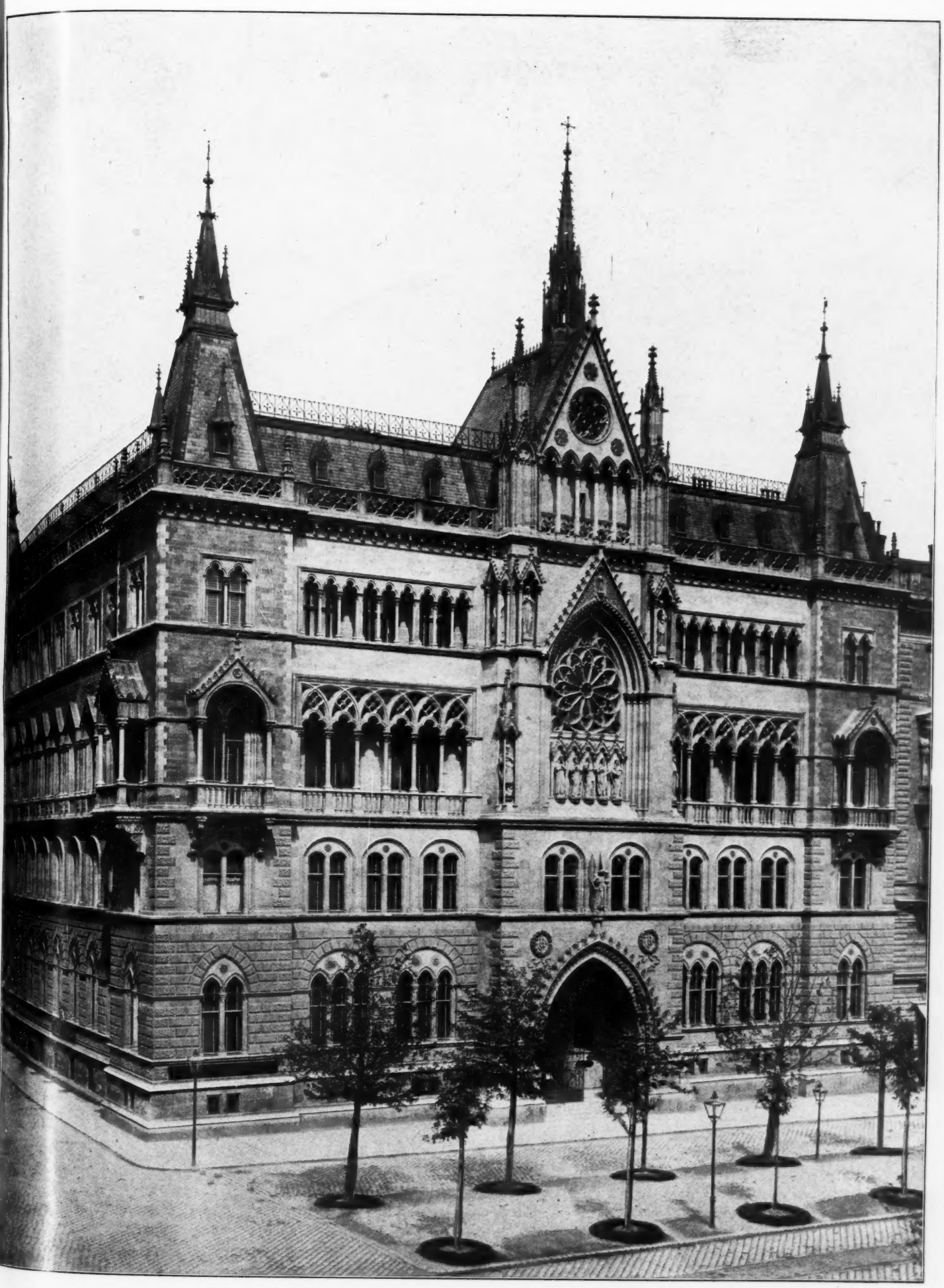


ENTRANCE TO THE ARSENAL MUSEUM.—Herr T. von Hansen, Architect.



CHARITABLE INSTITUTION.—The late Baron von Schmidt, Architect.

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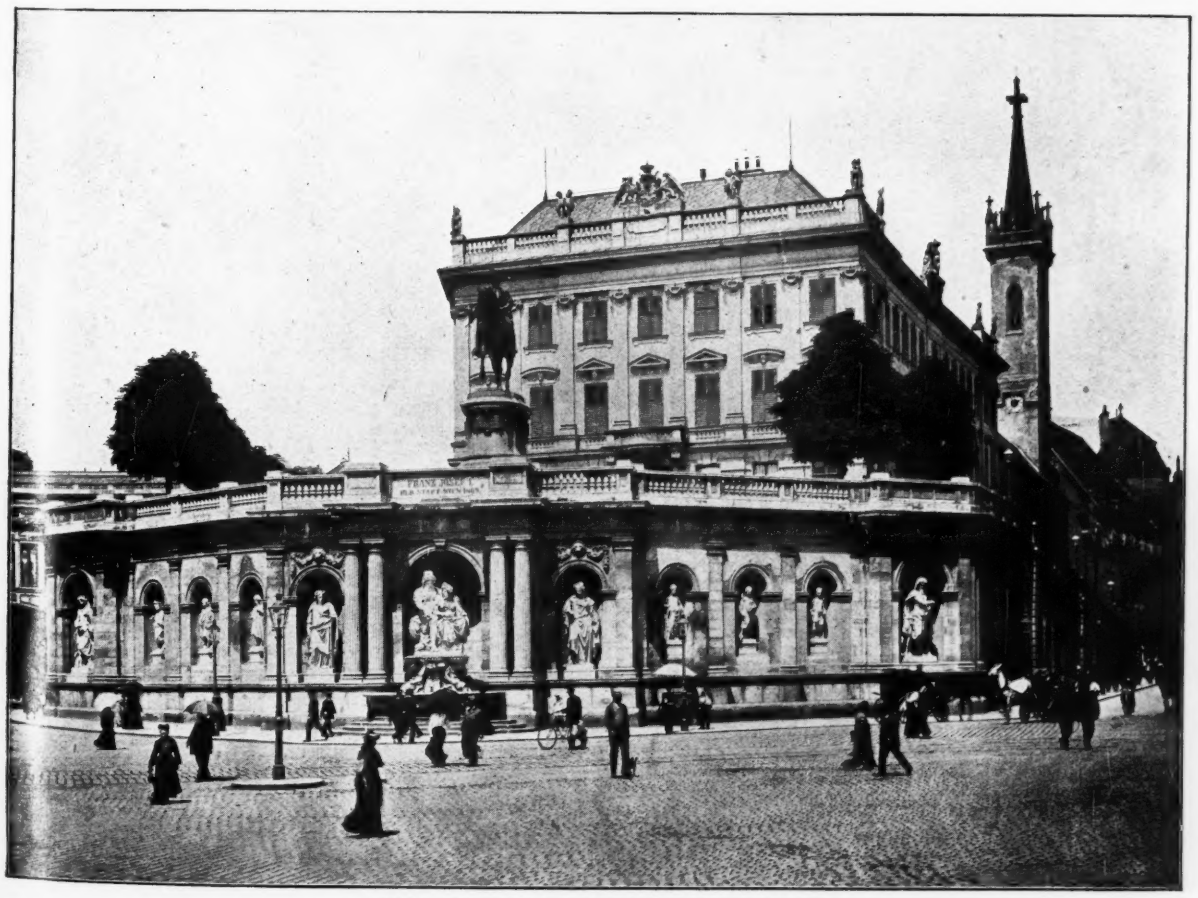
THE CIVIC ARSENAL.

THE GERMAN THEATRE.—Herren Fellner & Helmer, Architects.

PART OF THE AUERSBERG PALACE.



THE FRANCIS JOSEPH FOUNTAIN.

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THE UNIVERSITY.—The late Baron von Ferstel *(Royal Gold Medallist, R.I.B.A.)*, Architect.

THE UNIVERSITY.—The late Baron von Ferstel *(Royal Gold Medallist, R.I.B.A.)*, Architect.

THE HOFBURG THEATRE.—The late Professor Semper, Architect.

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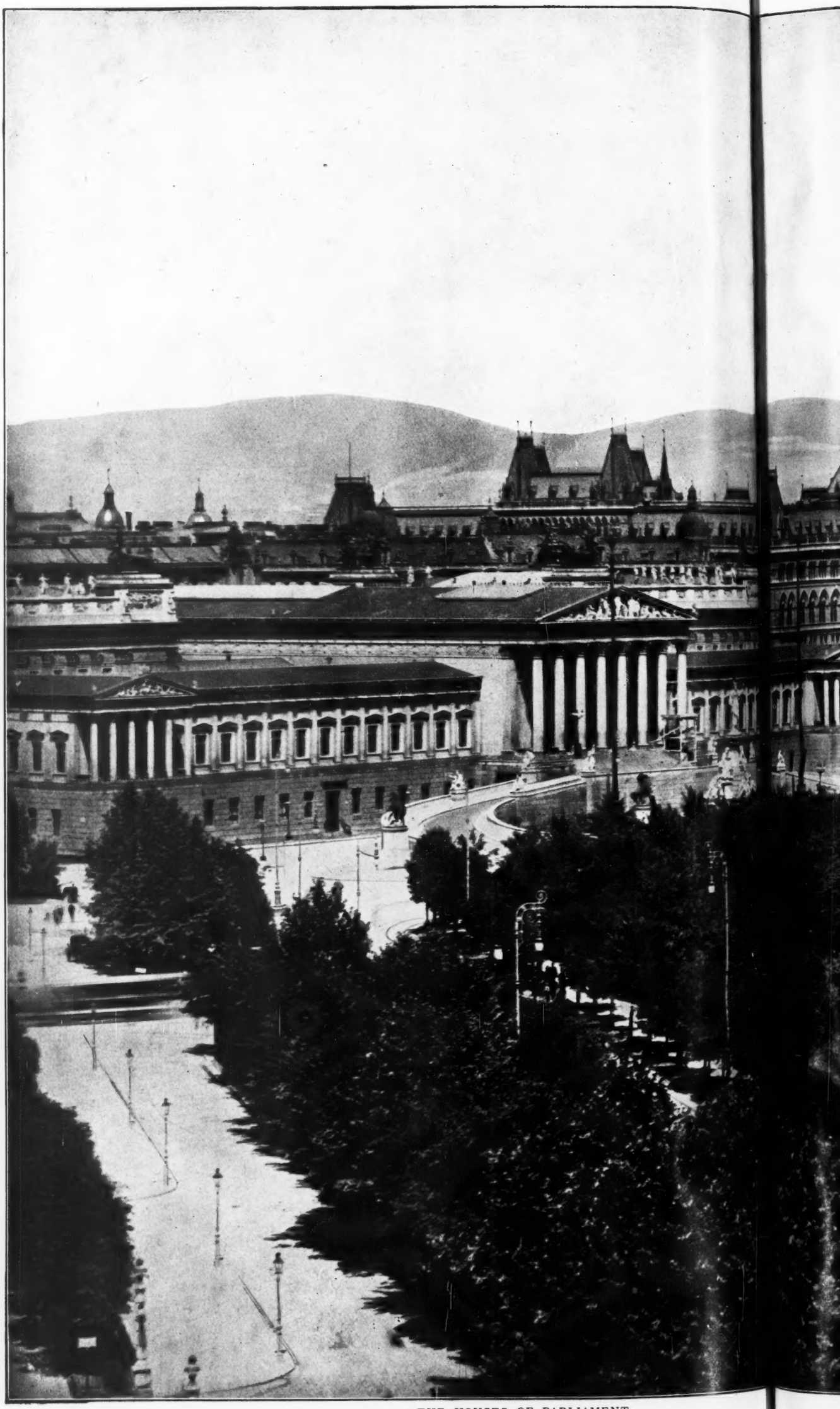


THE HOUSES OF PARLIAMENT.

THE TOWN HALL.

THE UNIVERS

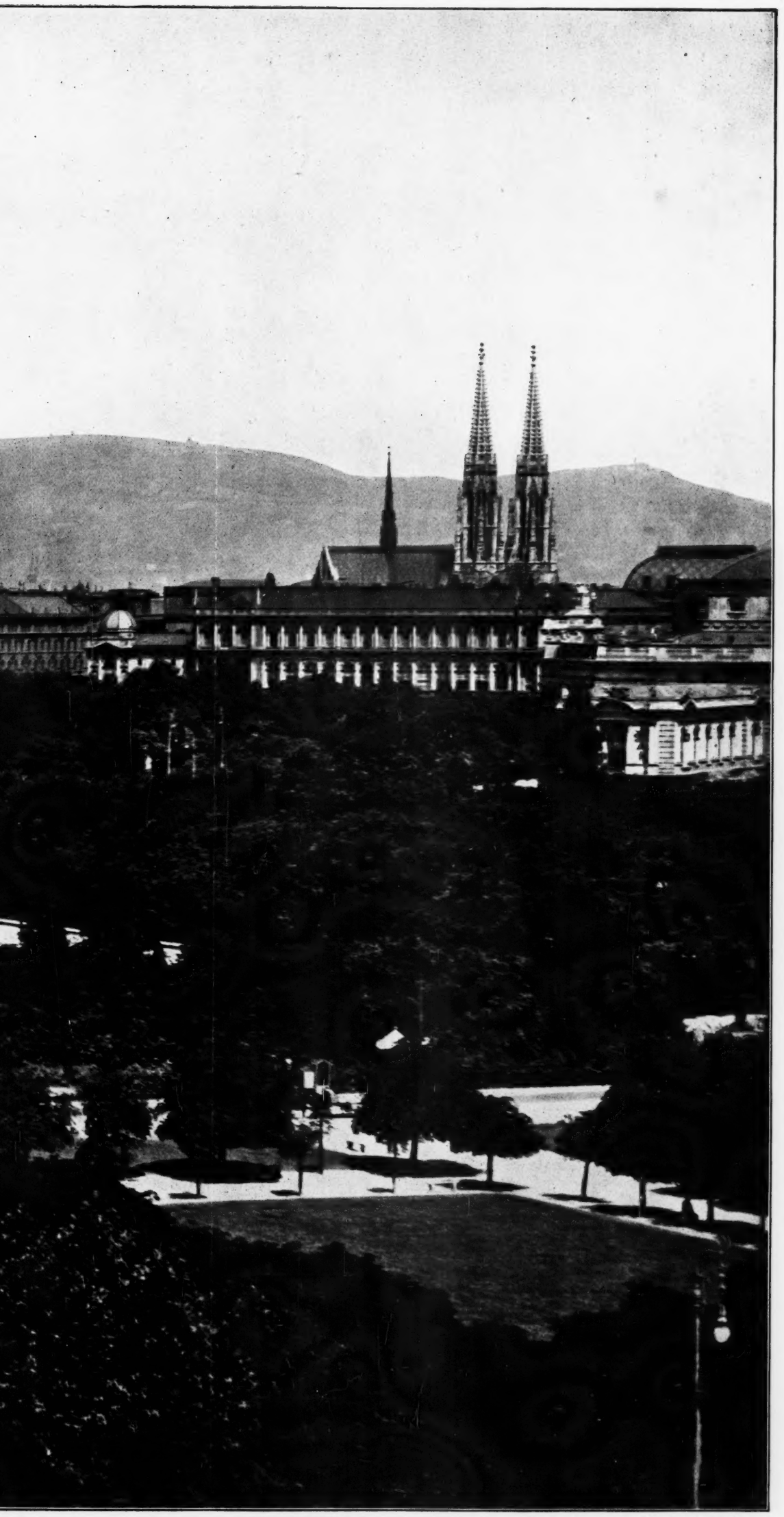
VIENNA ARCHITECTURE.

PUBLIC BUILDINGS ON THE FRANZENSRING.

E.

ENSRING.

THE VOTIVE CHURCH. THE HOFBURG THEATRE.



THE UNIVERSITY.

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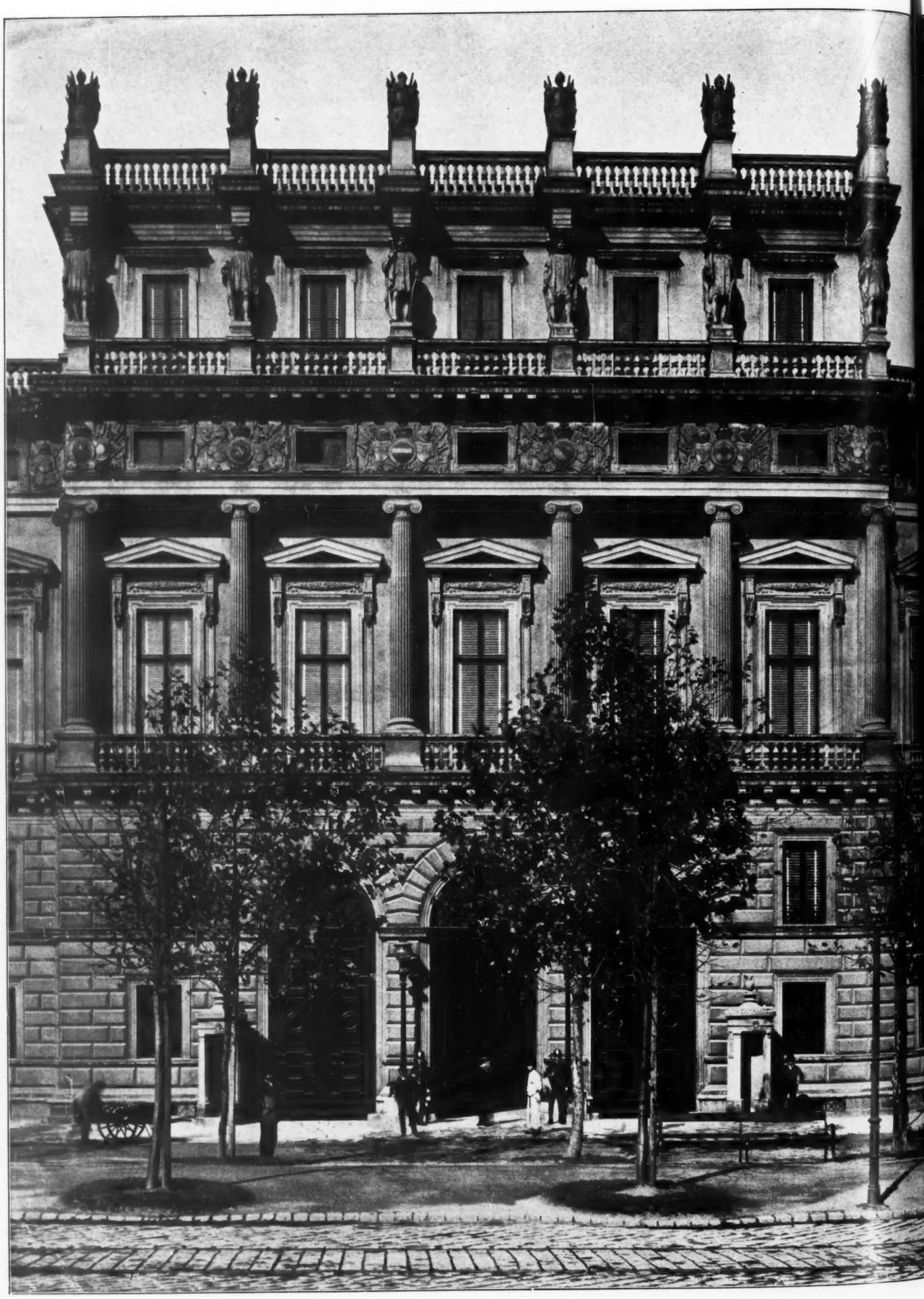
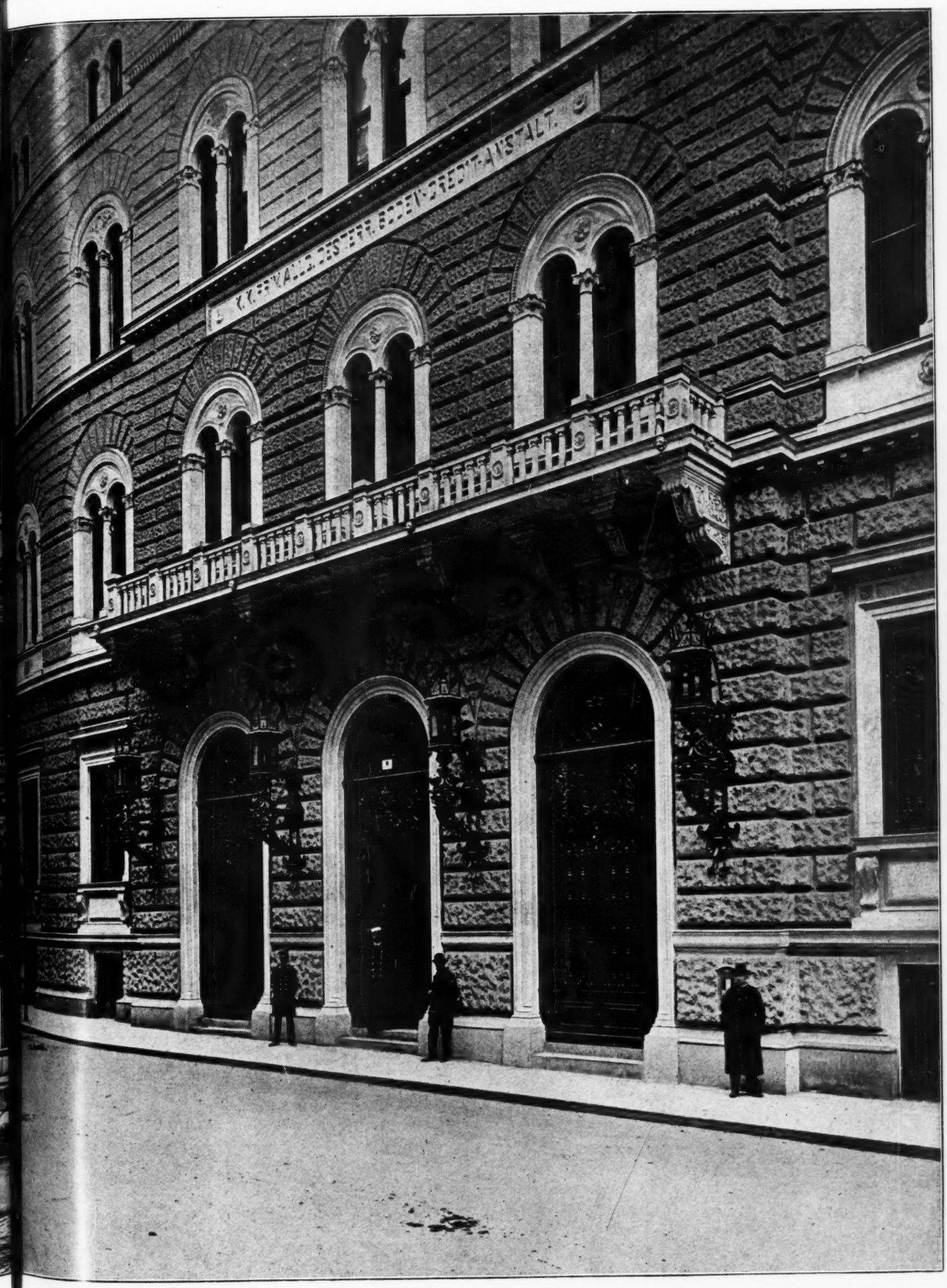


ARCHDUKE WILLIAM'S PALACE.—The late Baron von Hansen, Architect.



PRINCIPAL ENTRANCE TO THE CREDIT BANK.—Baron von Forster, Architect.

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